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THOMAS SYDENHAM

Maria Beale pinxit.

A. Blooteling Sculp.

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SELECTED WORKS
OF
Thomas Sydenham, M.D.

WITH A SHORT BIOGRAPHY
AND
EXPLANATORY NOTES

BY

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SYDENHAM, Thomas [1624-89].



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PREFACE.

SEVERAL biographical notices of Thomas Sydenham and many editions of his works have been published in the two centuries following his death. The introduction to the Latin edition by Dr. Greenhill and that to its English translation by Dr. Latham deal fully with Sydenham's works from a critical literary standpoint; the essay by Dr. John Brown describes his friendships especially that with Locke; and the excellent biography by Dr. Payne details the facts of his life, so far as these are known.

These aspects therefore have been but lightly touched in the following sketch, and the present writer has attempted chiefly to make an appreciation of Sydenham's personal characteristics and an estimate of his place in clinical medicine.

The extracts have been chosen in some cases because they describe conditions which Sydenham was the first to record, in other cases because they give delineations of disease that have become famous, and in other cases because they have a permanent applicability by reason of their sound common sense. The extracts quoted in this volume form about one-third of Sydenham's complete works.

With regard to the translation, that of John Swan, M.D. (1742), forms the basis. Where it seemed desirable, the writer emended this version, using the third (1705),

PREFACE.

Latin edition of Sydenham's works, and Dr. Greenhill's Latin edition (1844), published by the Sydenham Society. This explains the slightly archaic English phraseology, which the writer thought it desirable to retain, as resembling the English that Sydenham himself would have been likely to employ.

It is hoped that this little volume may prove acceptable to those who take a special interest in medical history, and that it may help to stimulate a renewed general interest in regard to a man who has been called "the prince of English physicians" and "the English Hippocrates."

The writer desires to record his indebtedness to Dr. Charles Singer for numerous suggestions and much helpful criticism.

25, *Manor Place,*
Edinburgh.

January, 1922.

J. D. C.

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*“ Whatsoever thy hand findeth to doe, doe it with thy might :
for there is noe worke, nor devise, nor knowledge, nor wisdom in the
grave whether thou goest. Eccles. 9° 10°.*

London Martii 26°

1669.”

(Inscribed in Sydenham's handwriting on the flyleaf of his MS.
“ Medical Observations.”)

LIFE OF THOMAS SYDENHAM, M.D.

THOMAS SYDENHAM was born at Wynford Eagle, Dorsetshire, towards the end of 1624, and died December 29, 1689, at his house in Pall Mall, London.

Sydenham is a well-known name in medical history, both among practitioners and public, but if the average medical man were asked to state what he knew of Sydenham, the account would probably at most be made up of the following generalities. It is commonly known that Sydenham came of a Puritan family and served on the republican side in the Civil War; that his writings deal with the clinical aspect of medicine, but are originally accessible only in Latin so that they are not much read now; that he went by the name of "the prince of English physicians," or of "the English Hippocrates"; that Boerhaave, when he mentioned Sydenham's name, was accustomed to raise his hat; that Sydenham did much to give us clearer notions on the subject of fevers, which before his time were hopelessly confused; that he was the first to describe scarlatina and that variety of chorea bearing his name; that he was largely instrumental in making general the use of Peruvian bark for agues, and that he wrote a clear and entertaining account of gout, from which he suffered himself. Those who have a fondness for anecdotes concerning celebrated men may cherish his reply to Sir Richard Blackmore, who asked Sydenham's advice as to the best books for medical reading: "Read

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‘Don Quixote’; it is a very good book; I read it myself still,” replied the latter, indicating at once his contempt for the medical literature of the time and the knowledge to be gained from Cervantes’s romance as to the foibles of mankind.

The intolerance shown by the great clinician for the other branches of medical study is also traditional from the oft-quoted remark to Sir Hans Sloane who in early life came to Sydenham as a pupil, bringing a letter of introduction which described him as “a ripe scholar, a good botanist, a skilful anatomist.” Sydenham, after reading the letter is reputed to have remarked, “This is all very fine, but it won’t do—Anatomy—Botany—Nonsense! Sir, I know an old woman in Covent Garden who understands botany better, and as for anatomy, my butcher can dissect a joint full as well; no, young man, all that is stuff; you must go to the bedside, it is there alone you can learn disease.” Apart from this conversation, which is probably exaggerated, Sydenham was very kind to the rising young physician, and they were frequent companions on drives out of London in Sydenham’s carriage. On one of these occasions Sloane consulted him about a project of going to Jamaica to study plants. Sydenham meditated the matter till the coach stopped in the Green Park and Sloane alighted to walk home, when Sydenham exclaimed, “No, you must not go to Jamaica; you had better drown yourself in Rosamund’s pond, as you go home.” (The favourite place of the day for suicides, in St. James’s Park). Sloane, however, did go to Jamaica, with fortunate results to the science of botany as well as for his own reputation.

Sydenham’s sense of humour, as well as the liberties which he could take with his patients on occasion is well brought out in the anecdote, not so well known as the others, which Paris records in his “Pharmacologia” as illustrative of the medicine of the mind. “That great physician (Sydenham) having long attended a gentleman of fortune with little or no advan-

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tage, frankly avowed his inability to render him any further service, adding at the same time, that there was a physician of the name of Robinson at Inverness, who had distinguished himself by the performance of many remarkable cures of the same complaint as that under which his patient laboured, and expressing a conviction that, if he applied to him, he would come back cured. This was too encouraging a proposal to be rejected; the gentleman received from Sydenham a statement of his case, with the necessary letter of introduction, and proceeded without delay to the place in question. On arriving at Inverness, and anxiously inquiring for the residence of Dr. Robinson, he found, to his utter dismay and disappointment, that there was no physician of that name, nor had been in the memory of any person there. The gentleman returned, vowing eternal hostility to the peace of Sydenham; and, on his arrival at home, instantly expressed his indignation at having been sent so many hundred miles for no purpose. 'Well,' replied Sydenham, 'are you in better health?' 'Yes, I am now quite well, but no thanks to you.' 'No,' says Sydenham, 'but you may thank Dr. Robinson for curing you. I wished to send you a journey with some object of interest in view; I knew it would be of service to you; in going, you had Dr. Robinson and his wonderful cures in contemplation; and in returning you were equally engaged in thinking of scolding me.'" It was due possibly to such unconventionality and pleasantry, as well as to political enemies, that, as he told Andrew Broun, an Edinburgh physician who became his pupil, "he was balked the employment of the Royal Family, though he was before that called among them one of the first physicians." Sydenham, however, attributed this disappointment to the whisperings of his detractors.

EARLIER LIFE AND MILITARY SERVICE.

These and other anecdotes have formed the popular idea as to Sydenham's personality, and the actual facts of

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his life are decidedly vague and fragmentary. He was born towards the end of 1624, the fifth in a family of seven sons and three daughters. Both his father, William Sydenham, and his mother, Mary Jeffrey belonged to old-established families of importance and substance in the shire of Dorset. Of his brothers, two died young; William the eldest was a Colonel in the Civil Wars, a well-known republican and friend of Cromwell; Francis was a Major in the Parliamentary Army and was killed in 1644; John, also a Major in the Parliamentary Army, was killed in the War in Scotland in 1651; and Richard also served as a "Captayne," later becoming a Civil Commissioner under the Protectorate. The father, William Sydenham, when an elderly man, served as Captain in the Parliamentary Army, and was for some time a prisoner in the hands of the Royalists, and Thomas, the subject of our sketch, left his studies at Oxford to serve first as a trooper, later attaining the rank of Captain in the Parliamentary Horse. At the age of 18, in May, 1642, Thomas Sydenham had been sent to Oxford, matriculated as a Fellow Commoner at Magdalen Hall (now merged into Hertford College), which was the great centre of Puritanism in the University. Even before Sydenham matriculated, preparations were being made in London for armed resistance to the King, and in August of the same year the Civil War broke out.

Sydenham's studies at this time therefore did not last more than a few months, and it was inevitable that with the strong Puritan tradition and fighting qualities of his family he would be compelled to take a side in the great political dispute which agitated every Englishman, while it was equally certain on which side he would be enrolled. For the next three and a half years Sydenham was engaged in military operations within his native county of Dorset, where a kind of guerilla warfare was maintained with great ferocity between bodies of Royalist and Parliamentary troops without any important battle. During this time his

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mother lost her life in the war, being killed by the Royalists—it was said by a certain Major Williams, who subsequently came face to face with Sydenham's eldest brother as the latter was leading a charge on the Royalists in Dorchester. The old chronicler, Vicars, describes the scene in the following dramatic words: "So soon as Colonel Sydenham saw Williams, he spoke to his men that were next to him to stick close to him; for, said he, 'I will now avenge my mother's innocent blood'; and so he made his way to Major Williams, and slew him in the place, who fell dead under his horse's feet." A chance reference mentions the wounding of Thomas Sydenham in a sortie from Weymouth, an important Parliamentary stronghold of which his brother, Colonel Sydenham, was Governor; and it is an interesting coincidence that in another sortie from the town the Royalist Surgeon Richard Wiseman, as he himself relates, was very nearly taken prisoner. So closely and unconsciously did the lives of the subsequent great reformer of practical medicine and of the equally great reformer of practical surgery touch one another! In a petition to the Lord Protector, dated March 3, 1653, regarding the recovery of certain moneys, our Sydenham speaks of having "himselfe faithfully served the Parliament with the loss of much bloud and thereby much disabled his body."

Andrew Broun of Edinburgh, who spent several months as Sydenham's pupil and evidently enjoyed his confidence, also mentions as an instance of the special intervention of Providence on his behalf a singular adventure which happened on his second period of military service. "Tho I cannot stay to reckon all the Dangers among the Calamities of the late *Civil Wars* (where he was an *Actor*), that passed with great *difficulty* over his head, as his being left in the Field among the dead, and many other dangers he met with: yet there is one that representing rather a *miracle* than a *common providence*, cannot be passed over, which as I had it from

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his own mouth, is thus, at the same time of these Civil Warrs, where he discharged the office of a Captain, he being in his lodging at *London*, and going to bed at night, with his Cloaths loosed, a mad drunk fellow, a Souldier likewise in the same lodging entering the Room, with one hand griping him by the breast of his Shirt, with the other discharged a loaden Pistol in his bosome, yet, O *strange!* without any hurt to him, most *wonderfully* indeed, by such a narrow shield as the edge of the Souldiers hand, was his breast defended; for the admirable providence of *God* placed & fixed the tottering hand that gripped the Shirt into that place & posture, that the edge thereof and all the bones of the *metacarpe* that make up the Breadth of the hand, were Situate in a right line betwixt the mouth of the Pistol and his Breast, and so the Bullet discharged neither declining to the one side nor to the other; but keeping its way thorow all these Bones, in crushing them lost its force and fell at his Feet. O! *Wonderful* Situation of the hand. And more *Wonderful* course of the Bullet! by any Industry or Art never again Imitable! And moreover within a few days the Souldier, taken with a *fever* arising from so Dangerous and Complicat a Wound, died; surely providence does not bring forth so *stupendous Miracles*, but for some great and equivalent end." Another passing reference in the collection of notes called *Anecdota Sydenhamiana* speaks of his having used up a gallon of a certain remedy for colic in Scotland. This was when he was acting as Captain of a Troop of Horse, and incidentally as their doctor, during the Second Civil War in 1651 against the younger Charles.

In none of his works does Sydenham refer to his military experiences, but this is not surprising if one reflects that, when he wrote, the throne was occupied by Charles II, against whom he and his family had been such effective partisans, and to whom he now perforce must look as the source of the honours and emoluments to which his medical eminence entitled him.

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Amid these scenes of forays, sieges and surprises Sydenham spent four years which would otherwise have been given to study, but in 1646 after the capture of Oxford by Fairfax, the first Civil War was at an end, and Sydenham, like other students who had taken up arms, was free to resume his studies. It is more than probable that having missed the chance of systematic grounding in the preliminary subjects of a medical course and being anxious now to proceed as quickly as possible with the study of medicine proper which he had been induced to embrace by a certain Dr. Coxe, he never devoted himself thoroughly to the study of botany and anatomy. This may explain his animus, already mentioned, against these pursuits. Returning to Magdalen Hall, Oxford, in 1646, and in 1647 entering as a Fellow Commoner at Wadham College, he was created on April 14, 1648, a Bachelor of Medicine by command of the acting Chancellor, the Earl of Pembroke. This dispensation, granted no doubt because of his favour with the republican dispensers of patronage in recognition of the services rendered by his family to the Parliamentary cause, prepared the way for his preferment in October of the same year to a Fellowship of All Souls' College *vice* an expelled Royalist. In the next year he was appointed Senior Bursar of the College. Here he became intimate with Dr. (later Sir) Thomas Millington,¹ also a Fellow appointed by the Parliamentary Visitors, and must have known Christopher Wren who was a Fellow in the same manner. Millington is responsible for the story that when Sydenham returned to the University after his four years' absence at the war, he had forgotten his Latin, but repaired it by diligently reading Cicero, whom he translated into English and

¹ Millington, along with Willis, Wren, Boyle, and others, formed some years later, the little coterie of friends in All Souls' College, out of which the Royal Society originated. Sir Thomas Millington was appointed Sedleian Professor of Natural Philosophy at Oxford, and was the discoverer of sex in plants.

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retranslated into Latin, correcting his version by the original.

MARRIAGE AND PRACTICE.

In 1655 Sydenham resigned his fellowship of All Souls' College, and in the same year was married at Wynford Eagle to Mary Gee, regarding whom nothing further is known. He had recently obtained by order of Cromwell the money owing to him and for which he had petitioned, and with this (the equivalent of about £2,000 at the present day) he set up practice at Westminster. The locality was important in relation to his future work. His house was situated in King Street, a little street which has recently disappeared to make way for Government offices but which ran parallel to Parliament Street. To the west in those days St. James's Park and Pimlico formed a stagnant marsh, from which originated the ague and fevers that formed one of Sydenham's main studies. No doubt he hoped also, by settling in a district where Parliamentary statesmen, Members of Parliament, and army officers resided, to obtain both practice and preferment; a hope, however, soon dispelled by the Restoration in 1660. It is significant that about this time Sydenham spent a period of study at Montpellier. The exact date of his visit to this celebrated medical school is uncertain, but the Calendar of State Papers shows that on July 28, 1659, a permit was granted by the Council of State to Mr. Sydenham and Mr. Briggs to travel beyond seas. Oliver Cromwell had died in 1658 and Richard Cromwell abdicated the Protectorship in May, 1659, so that the skies seemed black for the family of Sydenham. Indeed, at the Restoration, Sydenham's brother, Colonel William Sydenham, was one of the twenty men whose names were expressly excluded from the benefits of the Act of Indemnity in all particulars not extending to life. Moved, therefore, in all probability by the desire to extend the very short course of study which the exigencies of military service

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had allowed him, and deeming this time of uncertainty at home a suitable one to spend out of England, Thomas Sydenham betook himself to Montpellier. Here he is believed to have studied under Barbeyrac, a physician of great repute throughout the whole of France, both as a teacher and consultant, and moreover a man of novel ideas, simple and successful in his methods of treatment. A few years later Sydenham's friend, John Locke, also studied at Montpellier and he used to say that he never knew two men more alike in opinions and character than Sydenham and Barbeyrac.

We do not know when Sydenham returned from France and resumed practice in London, for in the summer of 1660 he was laid up with a severe seizure of gout (of which he had had attacks since the age of 30, seven years before). This was accompanied now for the first time by hæmaturia. He must, however, have been back at work before 1661 for with this year begins his celebrated series of observations on the fevers prevalent between the years 1661 and 1675.

The next important event in his life was his admission as a Licentiate of the College of Physicians in 1663. At that time it was illegal for anyone to practise medicine in or within some miles of London without the Licence of the College. During his earlier period of practice in King Street, the rule had probably been allowed to lapse for a time after the war, and in any case it is unlikely that any serious steps would have been taken against so staunch a supporter of the ruling powers. Now the College began again to assert its rights, and, by the sanction of the King, limited its Fellowship to Doctors in Medicine of Oxford and Cambridge Universities. Sydenham being only a Bachelor in Medicine of Oxford was thus ineligible for the Fellowship, and though he received the degree of Doctor from Cambridge University in 1676 he never applied to the College for the higher rank of Fellow.

According to Andrew Broun, who has been already quoted, and to whom Sydenham evidently unbosomed

his mind with much confidence, the great physician had many detractors and enemies on account of his novel methods and success in treatment. It may be that Sydenham had enemies in a clique of the College, and he appears certainly to have thought he had, a feeling which evidently prevented him from applying for the Fellowship later, when he might have done so. Medical controversy was not in those days transacted in an academic spirit but with acrimony and commonly with personal abuse—which, though illogical, is often vastly entertaining to outsiders. Broun, writing in 1691, declares that “he hereby only gained the sad and unjust recompense of *calumny* and *ignominy*; and that from the emulation of some of his collegiate Brethren, & others, whose indignation at length did *culminat* to that hight, that they endeavoured to banish him, as guilty of Medicinal *heresie* out of that illustrious Society. . . . But what wonder that his Noble discoveries should be tossed with the same fate, among many other notable *Inventions*, the discoverie of the *Circulation* of the blood long was; which altho it did illustrate and embellish; and, besyde the self evidence it bare, did most extraordinarily inlighten the *theorie* of *Medicine*, yet was it long kept at the door; and that throw the prejudice of Men, occasioned by their uncuriousness to be at any Pains for discoveries themselves.” Sydenham, however, if he had enemies had also many warm friends highly placed in the profession, both in the College and in the Universities, as will appear later. Many eminent men abroad also speedily adopted his doctrines, read his books and entered into correspondence with him. Sydenham in the Epistle to Dr. Mapletoft prefacing his *Observationes Medicæ* refers again to this persecution and calumny but winds up with a noble saying of Titus Tacitus to Metellus —“It is easy to speak against me when I make no reply; you have learned to speak evil; I, my conscience bearing me witness, have learned to despise evil speaking. You are master of your tongue, and can utter what you will;

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I am master of my ears, and can hear without offence whatever is presented."

FRIENDS AND PUPILS.

Several of Sydenham's friends have been mentioned. One of these was Robert Boyle, one of the founders of the Royal Society, who was at Oxford in 1654 and whose acquaintance he probably made during the second period of study in that University. The acquaintance ripened into friendship, and to Boyle the first edition of Sydenham's *Methodus Curandi Febres* was dedicated. In the preface Sydenham mentions that Boyle had actually visited the sick with him, through scientific interest, though Boyle, of course, was not a doctor. Another fast friend of Sydenham was John Locke, to whom he appears to have been introduced by Dr. Mapletoft, not when they were at Oxford, but in 1668 when Locke came to live in London. Sydenham's friendship towards Locke is beautifully expressed in the Epistle to Dr. Mapletoft, where he writes, "You know also how thoroughly an intimate and common friend, and one who has closely and exhaustively examined the question, agrees with me as to the method of which I am speaking; a man who in the acuteness of his intellect, in the steadiness of his judgment, in the simplicity (and by simplicity I mean excellence) of his manners, has among the present generation, few equals and no superiors. This praise I confidently attach to the name of JOHN LOCKE." Locke's high regard for Sydenham is borne out by many of the former's letters, as well as by the elegant and eulogistic Latin poem which Locke wrote as a preface to the second edition (1668) of the *Methodus Curandi Febres*. Locke, whenever he mentioned Sydenham's name, spoke always in terms of high appreciation, and some years after the latter's death, he lamented that physicians had not more generally followed Sydenham's natural methods, but were still engaged in their disputes regarding theories of disease. The practice of Locke lay

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chiefly among the family and dependents of Lord Shaftesbury, to whom he was domestic physician, and a number of letters between Locke and Sydenham are still extant. It is a matter for regret that the work on Small-pox which these two acute minds at one time proposed to produce in common was never carried to completion.

A series of notes discovered by Dr. Greenhill in the Rawlinson MSS. of the Bodleian Library entitled "Extracts of Sydenham's Physick Books and some good letters on various subjects," was published by him under the title of *Anecdota Sydenhamiana*. These notes were afterwards proved by Mr. Fox Burne to be written in the handwriting of John Locke, who had apparently taken down some of them from Sydenham's dictation. In them are described two methods of treatment introduced by Sydenham, one, the treatment of phthisis by horseback exercise in the open air, the other a method of curing great debility in old people by putting young and vigorous persons in bed with them. This method, which Locke calls "Methodus Medendi Morbos per accubitum junioris," is referred to and defended by Sydenham in his *Observationes Medicae*, where he says, "I am by no means ashamed of it, even though some few amongst the arrogant, impertinent and supercilious despisers of everything common may sneer at me by reason of it." The practice is so unusual that it is worth while to quote one of the cases which Locke instances. "The very same way had I cured before Bp. Monk's Lady, who was an aged Woman of a very feeble & thin habit of Body, & had an Ague wch (tho gone) had soe weakened her yt her Physician Dr. Ridgley looked upon her as dead; when I was sent for she had also spitten some purulent matter and blood wch they shewed me (in abundance) upon ye napkin. I told ye Dr. yt I apprehended yt nothing could save her life, but a speedy transplantation of some young Spirits upon her, to wch he readily agreed, and a girl of 13 years was put in close to her Breast, upon this she recovered very speedily both

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of her Unspiritedness & her Coughing ; but ye Girl fell sick, wch was attributed to her lying with ye Lady, tho I was confident to ye Contrary, having never known any Mischief yt way ; However she had first coming out upon her Petechiæ & afterwards large Ulcers upon her Breech ; but Dr. Ridgley and I recovered her." Similarly in continued fevers with abdominal discomfort, he recommended that a live young animal (catulus) should be kept on the abdomen, much as a hot water bag is used nowadays.¹

Among other friends and correspondents of Sydenham, Sir Thomas Millington, President of the College of Physicians, and Dr. Mapletoft, Professor at Gresham College, to whom Sydenham dedicated the third edition of his *Observationes Medicae*, have been already mentioned. Dr. Mapletoft is reputed to have translated most of Sydenham's works into the Latin form in which they were published. Whether Sydenham wrote originally in Latin, or whether he set down his thoughts in English words to be afterwards done into Latin by himself or some friend, has been a subject of much discussion. The reason for a Latin form in the time when Sydenham wrote was twofold ; in the first place medical works in English were apt to be regarded as of a popular nature, and the appearance of his writings in vernacular form would have caused even greater opposition to the doctrines contained in them ; in the second place, and of more importance, the Latin form rendered them equally accessible to doctors on the Continent with those in England. We have seen that Sydenham had some doubts as to the perfection of his Latin composition ; the works are obviously translations, as one may judge, from the studiously idiomatic nature of many phrases em-

¹ The method of treating an old and devitalized person by the accubitus of a young and warm body is well known in folk medicine, and may have been suggested to Sydenham's mind by the case of the aged King David and Abishag the Shunammite. (See 1 Kings, Chap. I, vv. 1-4.)

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ployed ; and it is highly probable that the resetting was either effected or revised by some of the author's friends whose Latinity was more perfect than his own. The translation is generally attributed to, and was claimed by Dr. Mapletoft so far as the bulk of the works is concerned, that of the *Schedula monitoria* being credited to Dr. Gilbert Havers. Anyone who is specially interested in the matter will find it discussed in the preface to Dr. Latham's Translation into English of Sydenham's works.

It appears that several of Sydenham's published works were, so to speak, coaxed from him by the application of eminent friends, and some of his shorter writings take the form of Epistles addressed to members of the profession. Thus his *Epistles on Epidemic Diseases* was an answer to his friend, Dr. Brady, Master of Gonville and Caius College, and Regius Professor of Medicine in the University of Cambridge. His *Epistle on Venereal Disease* was a reply to an appeal "To my good friend, Dr. Thomas Sydenham, M.D.," from Dr. Henry Paman, Public Orator to the University of Cambridge and Professor of Medicine in Gresham College. The *Epistolary Dissertation*, which deals chiefly with the treatment of smallpox and of hysteria, was composed in answer to a request from Dr. Cole, a practitioner of Worcester. The *Treatise on Gout and Dropsy* was addressed to Dr. Thomas Short apparently in place of a work on the treatment of Chronic Diseases which he had urged Sydenham to bring out. The *Schedula Monitoria* on the appearance of a New Fever, written in 1683 during his declining years, was dedicated to Dr. Charles Goodall, Censor of the College of Physicians, to whom Sydenham refers as "my good friend, constantly by my side, and one whose patronage has protected me against all who have opposed me." Many other distinguished men became followers of Sydenham even in his own time both at home and abroad. Thus Broun quotes the opinion of Dr. Micklethwaite, President of the College, who when near death tardily acknowledged Sydenham's merits

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and "did profess that notwithstanding of the attempts of severals against the *methods* of Sydenham, yet these would yet prevail and triumph over all other *methods*."

The friendship of Sydenham for Sir Hans Sloane and Sir Richard Blackmore in their early days has been mentioned. It was apparently a custom of Sydenham to receive pupils into his house, as for example, Bartholomew Beale who afterwards practised at Coventry, and whose mother, Mrs. Mary Beale, painted the portrait of Sydenham now in the College of Physicians. Another pupil who mentions Sydenham constantly with affection as "my old Master" and as "honest Dr. Sydenham" had a striking career. This was Thomas Dover, M.B., practitioner, buccaneer of the Spanish Main, "quick-silver doctor," and author of "The Ancient Physician's Legacy to his Country." The Compound Ipecacuanha Powder, which he introduced, originally as a remedy for gout he defends by the words of Sydenham, "sine papaveribus, sine opiatis, et medicamentis ex iis confectis, manca et clauda esset Medicina." He, however, prescribed this remedy in doses of 40 to 70 grs., and while he says that "Some Apothecaries have desired their Patients to make their Wills, and settle their Affairs, before they venture upon so large a Dose as I have recommended," he adds, "I can produce undeniable Proofs, where a Patient of mine has taken no less a Quantity than an Hundred Grains, and yet has appear'd abroad the next Day." He gives a good description of how Sydenham treated him for a severe attack of smallpox. "Whilst I lived with Dr. Sydenham, I had myself the Small Pox, and fell ill on Twelfth-Day. In the Beginning I lost twenty-two ounces of Blood: He gave me a Vomit; but I find, by Experience, Purging much better. I went abroad, by his Direction, till I was blind, and then took to my Bed. I had no Fire allow'd in my Room, my Windows were constantly open, my Bed-Clothes were order'd to be laid no higher than my Waist. He made me take twelve Bottles of small Beer, acidulated with Spirit of

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Vitriol, every twenty-four Hours." Sydenham's practice was to keep his patients with smallpox out of bed till the evening of the sixth day, if they could stand it, and otherwise Dover's account is a fair statement of Sydenham's "cooling method." For the treatment of Plague, in which Sydenham had had considerable experience both during the war and at London in the years 1665-1666, and for which the "Master" had been taught by an army surgeon the value of early and profuse blood-letting, Dover followed his precepts to an extreme limit, as the following experience on his celebrated voyage proves. "When I took by storm the two cities of *Guaiaquil*, under the Line, in the *South Seas*, it happen'd that not long before, the Plague had raged amongst them. For our better Security, therefore, and keeping our People together, we lay in their Churches, and likewise brought thither the Plunder of the Cities: We were very much annoy'd with the Smell of dead Bodies. These Bodies could hardly be said to be buried, for the *Spaniards* abroad use no Coffins, but throw several dead Bodies upon one another, with only a Draw-board over them; so that it is no Wonder we receiv'd the Infection.

"In a very few days after we got on board, one of the Surgeons came to me, to acquaint me, that several of my men were taken after a violent Manner, with that Languor of Spirite, that they were not able to move. I immediately went among them, and, to my great Surprize, soon discerned what was the Matter. In less than Forty-eight Hours we had in our several Ships one hundred and eighty Men in this miserable Condition.

"I ordered the Surgeons to bleed them in both Arms, and to go round to them all, with Command to leave them bleeding till all were blooded, and then come and tie them up in their Turns. Thus they lay bleeding and fainting, so long, that I could not conceive they could lose less than an hundred Ounces each man. . . . We had on board Oil and Spirit of Vitriol sufficient, which I

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caused to be mixed with Water to the Acidity of a Lemon, and made them drink very freely of it ; so that notwithstanding we had one hundred and eighty odd down in this most fatal Distemper, yet we lost no more than seven or eight ; and even these owed their Deaths to the strong Liquors which their Mess-Mates procured for them. They had all Spots, which in the great Plague they call *Tokens* ; few or none of the *Spaniards* escaped Death that had them ; but my people had them, and Buboës too. . . .

“ Read the Man whose Reason was much superior to mine, the honest and good Dr. Sydenham, and see if the Rule above (*contraria contrariis curantur*) was not his Guide.”

Truly the English sailor of the seventeenth century must have been a sturdy fellow. This is an example of the way in which an ignorant but admiring pupil may carry to an extreme and bring into discredit the salutary rules of a teacher.

LATER LIFE.

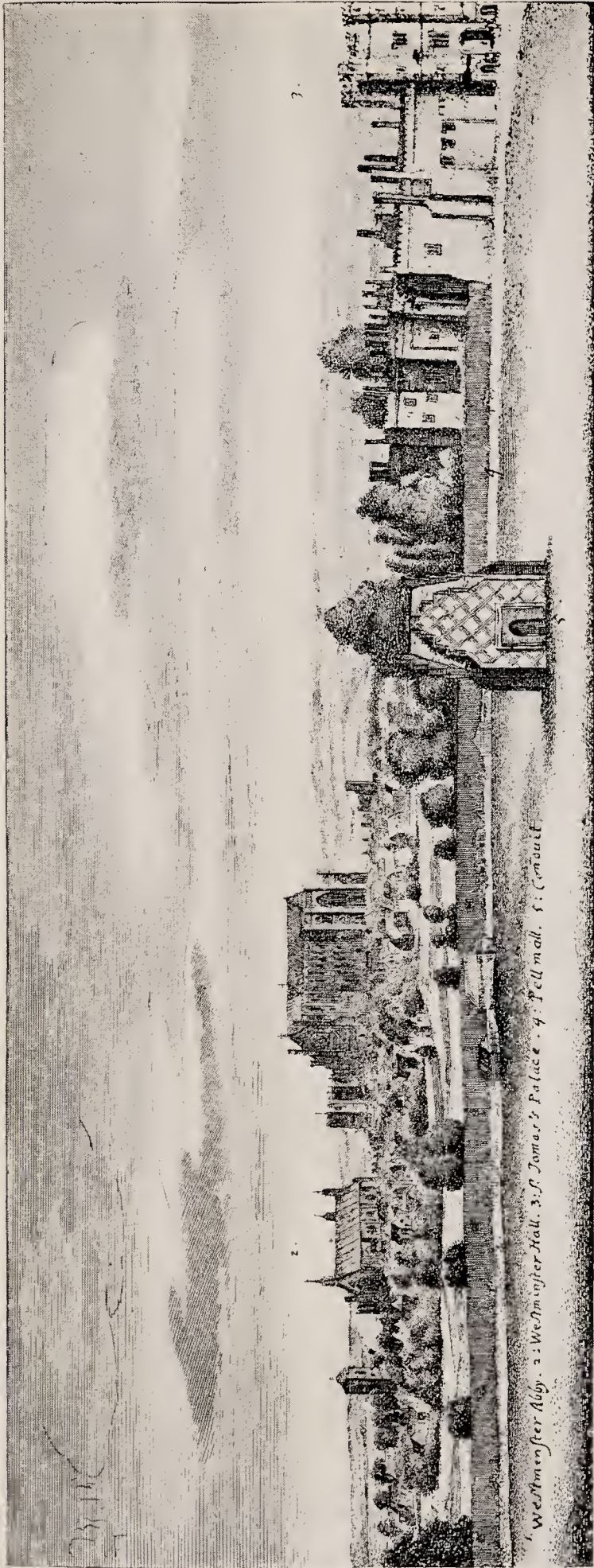
When Sydenham returned to London after his visit to Montpellier, he must have spent much of his time in the observation of fevers. His *Methodus Curandi Febres Propriis Observationibus Superstructa*, of which the first edition was issued in 1666 and in the same year reprinted in Amsterdam, was his first medical publication, at the age of 42. Where his practice was carried on is not certain, though from a letter to Dr. Gould dated December 10, 1667, we know that he then lived in Pall Mall where he spent the remainder of his life. This was not far from his original house in King Street and the purlieus of Westminster would, for the reason already given, afford him excellent opportunity for this study. From the age of 30 he had suffered from the gout and his work was often interrupted by attacks of this malady, especially in 1677, when he had such a severe attack accompanied by symptoms of stone that driving in his

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carriage became painful to him and he was laid up for three months and unable to visit his patients for the greater part of that year. In 1681, he writes to Dr. Cole, "I thought that my humble observations (on smallpox and hysteria) might be useful; I will further own that, over and above my wish to benefit the public, I wished so to pass the long, tedious evenings of winter, as to make my leisure serviceable; since I am now getting too old (57), to go beyond my house for company; but whatever were my motives, I found myself less equal to the task than I expected, my mind being unfitted for continuous thought."

By 1682, his gout had become so troublesome that in the *Dissertatio Epistolaris* published in that year he apologizes for being brief because if he were to indulge in any deep train of thought it might bring on an attack; and in 1683 he says, "my health prevents me from troubling the world much more with medical treatises: in the one I am now publishing my hand trembles too much to hold the pen." This poor health necessitated a simple and quiet life, and he says, "I am careful to go to bed early, especially in the winter, nothing better than early hours, to accomplish a full and perfect concoction and to preserve that order and even course of life which we owe to nature." He was very fond of small beer and repeatedly recommends it in various diseases as a beverage "which neither rises to the generosity of wine, or sinks to the debility of water." An anecdote related on the authority of Charles James Fox gives a picture of Sydenham enjoying the fresh air at his open window on the north side of Pall Mall which had then an unobstructed view over St. James's Park. As he sat with his pipe in his mouth and a silver tankard before him, a thief snatched the tankard and made off; nor was he overtaken before he got among the bushes in Bond Street, and there they lost him. We can picture Sydenham also in the afternoons driving out of town in his coach (his favourite excursion being to Acton),

PLATE II.



Engraving of a sketch by Hollar in 1660. View from a point about 200 yards west of Sydenham's house in Pall Mall, looking south towards Westminster, where Sydenham's practice chiefly lay.

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accompanied by Sloane or Blackmore, or some other of his youthful friends.

Apart from his gout and his troubles with professional opponents, Sydenham appears to have spent a happy family life. From an allusion in his first book, we know that his eldest son, William, was born before 1666, and by 1685 there were two others, Henry and James. Before his death he was a grandfather, his son William having three children named Barbara, Henrietta Maria, and Thomas ; and it is probable that his mother-in-law, Mrs. Gee, for whom he made careful provision by his will, was a member of the family circle. His practice appears to have kept him constantly busy and he had many persons of distinction among his patients. In the dedication of the *Observationes Medicae* in 1676, we find him saying, " I am now old : by the kindness of Providence, I have the wherewithal for the remainder of life : I aim only at the measure of happiness so beautifully described by Politian : May I do this without vexing either myself or my neighbour ! " It appears from his will that though he was not a wealthy man his means were comfortable ; he left to his eldest son, William, two small landed properties in Leicestershire and Hertfordshire after the manner of the time which endowed the eldest son with most of the family property, £200 apiece to his sons Henry and James, as well as numerous smaller legacies. William Sydenham obtained a doctor's degree from some foreign university, and the Licence of the College of Physicians in 1687, two years before his father's death, but where he practised is not known. Sydenham's last work, published after his death by Dr. Monfort in 1692, was the *Processus Integri*, a sort of compendium of remedies abridged from his other works. An English translation with the title " Dr. Sydenham's Practice of Physick " appeared in 1695. Both of these editions had an extraordinary success and the little book formed a vade-mecum for English physicians throughout the next century.

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SYDENHAM'S CHARACTERISTICS.

With regard to personal appearance, the portraits in the Royal College of Physicians in London painted by Mrs. Mary Beale and Sir Peter Lely, as well as several engravings produced from these, give us a good idea of the man. We gather that he was of a robust sanguine physique, with brown hair, later grey, worn long, without a wig; that his eyes were grey, his expression sad if not gloomy, grave but not austere, and kindly though not suave. We can imagine his manner to have been forceful and blunt, reminiscent of his days as a Roundhead trooper, though capable of a good deal of humour and pleasantry as in the anecdote of the mythical "Dr. Robinson," and he evidently gained the fullest confidence of his friends and patients. That he impressed a stranger with confidence is borne out by the words of Broun, "Hastening to London, and having met with the Man, and exposed the occasion of my coming, I found all these tokens concerning him and his Practice, that use to beget in wary and prudent People making serious Inquiry, Trust and Knowledge. Then after some months spent in this Society, returning home as much overjoyed as I had gotten a Treasure."

At the bedside he was all for careful observation and sedulous note-taking, reminding one in this particular of the practice of Hippocrates. Diet was one of his great considerations, and he was fond of simple and homely methods such as open air and horseback exercise. He did not shrink from drastic treatment in the matter of drugs, bleeding and purging, but he entirely avoided those mystic, futile and often disgusting remedies of which the London Pharmacopœia contained a great number, and which were doubtless designed largely to impress the credulous. In this connection there is a commonsense remark by Sydenham in the note on Epilepsy of Children among the *Anecdota Sydenhamiana*. "But to put ye cure upon, I know not how, many Sorts

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of Specificall Remedies, I understand not ye ground nor doe I find ye Success. Such as ye sell. pts. of Animals, and amongst y^e Cranium of a Man, wch I find to be a main Ingredient in many of ye Remedies wch pretend to be specificall in ye cure of this Disease; but I see not why (iff there be such specifick virtue in a Humane Skull) there should not be enough in the Patient's own, wch is so closely applied to ye Brain, ye part affected in this Disease; but there must needs be recourse to a few grains of another man's Skull, & ye same dead."

The plague, which was endemic in England during the earlier half of Sydenham's life, with occasional outbreaks, culminated in the Great Plague of 1665 when he was 41. By midsummer of this year, as Pepys records, almost all the town had left Westminster; and, at the end of June, Sydenham was persuaded to add himself to the fugitives and go to the country. It is regrettable that he did not see the plague at its height, for he might have added a notable chapter to the history of epidemics, but he saw many of the earlier and later cases and he had already had experience of an outbreak during the Civil War. The treatment which he most approved was profuse blood-letting at an early stage; and the faithfulness with which his pupil Thomas Dover absorbed his teaching, and success with which he practised it have been already mentioned.

With regard to the treatment of fevers, especially smallpox, Sydenham was responsible for introducing the cooling method, on the principle of treating disease by contraries. According to some of his detractors, like Gideon Harvey, this was distorted into meaning that he treated disease in a manner always contrary to that of other physicians. The method was somewhat crudely described by his pupil Dover as quoted already, and a brief résumé of Sydenham's recommendations and reasons will now be given. For the necessity of some new method, Sydenham in an MS. of the College of Physicians, asks his readers to imagine a sturdy porter or some such

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person in the fullest health and vigour, for the sake of experiment put to bed and treated in the manner then customary for smallpox and other fevers, with the curtains drawn, a large fire in the room and bathed for weeks in his own sweat, assisted by a nurse or two who on the least sign of restlessness heap on more clothes; during all this time too, plied with cordials and stimulants. He suspects that such a man would not only be very uneasy but his life would be in hazard; and he concludes that the richest "as being the best able to be at the charges of dying according to art, suffer most under this calamity." Accordingly he insisted on opening the windows, banishing fires, and providing only the ordinary bed-clothes. His patients remained out of bed till the sixth day of the disease, as he believed the access of air to the skin to be very important. The sick man was well supplied with bland fluids, of which he specially commended small beer, with the view of favouring the salivation commonly found in adults and the diarrhœa in children, whereby he believed the poison to be eliminated from the system. In a young patient "and one who has lent a hand to the disease by the free use of wine or any other fermented liquor, I am not satisfied," he says, "with attempting to restrain the ebullition of his blood, by the mere abstinence from his bed and from cordials; I go so far as to bleed him from the arm; if the prejudices of his friends forbid this, I at least urge it." One must note therefore, that Sydenham's practice in bleeding was not reckless, and at another place he characterizes bleeding as "in and of itself, bad practice" unless it be instituted with a definite end in view of counteracting something else. "If there be restlessness, or wakefulness or any other similar symptoms that threaten a brain fever, the occasional use of a paregoric," or fourteen drops of liquid laudanum, or an ounce of syrup of poppies is recommended.

Opium was a favourite drug with Sydenham, and he introduced a tincture or liquid form of laudanum, which

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consisted of strained opium 2 oz., saffron 1 oz., cinnamon and cloves of each 1 dr., and Canary wine 1 pint. This was found much more convenient than the "laudanum" of the shops, which was a solid pill-mass. Indeed this liquid preparation of "Sydenham's laudanum," which for the first time gave opium in fluid form and which became the favourite preparation of the drug in Continental pharmacopœias, as well as in British practice, did more to popularize the name of Sydenham than any of his writings. Though it has now gone out of use largely in favour of morphine, it did for Sydenham's name much the same as the compound ipecacuanha powder has done for that of his pupil Dover.

Iron is another everyday remedy of the present, which Sydenham (as well as his contemporary Dr. Thomas Willis) was one of the first to recommend and use to a large extent, though not the first to introduce. Sydenham prescribed this very constantly in hysteria and in chlorosis, either in the form of steel filings made into a pill or as a syrup. "Next to steel in substance," he says, "I prefer a syrup; this is made by steeping iron or steel filings in cold Rhenish wine; when the wine is sufficiently impregnated, strain the liquor, add sugar and boil to the consistency of a syrup."

The use of Peruvian bark, or Jesuit's bark as it was often called, was greatly stimulated by Sydenham for the agues which were so rife and so serious in England during the seventeenth century that, according to him, whole families were sometimes carried off by malignant tertians. The Countess Ana of Chinchon, wife of the Spanish Viceroy of Peru had been cured of malarial fever by this remedy in 1638, and returning to Spain in 1640 became an enthusiastic advocate of the medicine. Parcels of the bark were brought to Europe by Jesuit missionaries and distributed as a remedy, whose value and dangers were much disputed. Many physicians of the time denounced it because though it relieved the paroxysm of fever at the time, it was supposed to "fix

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the humour" in the body and cause dangerous and even fatal relapses; and there was further a religious prejudice against it in England because of its association with the Jesuits. Sydenham in the first and second editions of his *Methodus Curandi Febres* in 1666 and 1668 speaks of it with caution—"In the meantime I consider the point difficult, and pronounce the result to be dangerous. A clear proof of this may be found in the use of the so-called Jesuit's bark. However much its application may allay the present ferment, there still remains behind a residuum of matter, which ought to have been got rid of by fermentation. This soon renews its strength and challenges Nature to a fresh struggle. I know an instance where a quartan lasted for years, bark having served only to interrupt it. Some have been killed by having it given just before the fit. Nevertheless I will admit that, in the decline of fevers, the prudent and guarded use of remedies of this sort has occasionally done good, and has removed the fits altogether, especially when the epidemic character of the season has been other than intermittent." In the third edition of 1676 (*Observationes Medicae*) he pronounced unhesitatingly in favour of the use of bark and gave elaborate directions for its method of administration—"In regard to the cure of Quartans, those who are in the least degree conversant with medicine know how unsatisfactory are all those methods which have been designed for the cure of this *opprobrium medicorum*, Peruvian bark only excepted." The relative merits of Sydenham and Sir Robert Talbor in the introduction of Peruvian bark have been disputed. Talbor in 1672 wrote a book, the "Pyretologia" on the cause and cure of agues, which refers to his secret remedy of four ingredients. He had been using this for a year at least, but did not disclose its composition. About 1678 he cured Charles II of an ague by its means, was knighted, and though he was practising without a licence, was protected by a special injunction of the Secretary of State forwarded to the College of Physicians. In the following

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year he was called to Paris, similarly cured the Dauphin, and was made a Chevalier by Louis XIV. It was only at his death in 1681, after he had made a fortune by it, that his remedy was disclosed to be composed of an infusion containing rose leaves, lemon juice, cinchona and opium. It was really Sydenham who fought the battle for cinchona bark, against considerable prejudice and opposition and who deserves the credit in the same sense that Simpson does for the introduction of anæsthetics. The matter may be summed up by saying that Talbor, whom his contemporary, Gideon Harvey, another Royal Physician, designates "a debauched apothecary's apprentice," sold for a fortune and Royal favours, the same knowledge and experience that Sydenham frankly gave away.

In lues venerea Sydenham appears to have been responsible for the common idea of later times, that the cure was effected by the salivation which the mercury induced, not directly by the mercury. His favourite method of administration was by a liniment of hog's lard and crude mercury of which an amount containing one third of an ounce of mercury was to be rubbed by the patient himself into his arms, thighs, and calves three nights running. If salivation did not appear within three days after the last inunction, or if it was insufficient in amount, it was to be stimulated by calomel; the desired amount of salivation was about four pints of saliva in twenty-four hours and this was maintained for three or four weeks after the symptoms had disappeared. Sydenham explains his idea to be that the poison of the disease is excreted in the saliva.

Several novel or quaint methods of treatment formulated by Sydenham have been mentioned. Although the treatment of phthisis by open air and voyages had been practised by the ancient Greeks and Romans, Sydenham had the merit of introducing this into England, the particular form of open-air exercise that he favoured being long rides or journeys on horseback. "Do this," he says, "and you may neglect the rules of diet, and

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deprive yourself of no sort of meat and drink." Phthisis must have been even more prevalent in seventeenth century England than it is now, for he states that two-thirds of all the people who die of chronic disease perish from this cause. His method of treating elderly and greatly devitalized persons by what he called "accubitus" has been mentioned; he believed that the warmth of a young and vital body which diffused some kind of animal spirit, was greatly superior to that of flannels.

Sydenham is the great master of expectant treatment, that is leaving the patient to nature whilst watching that no serious symptom requiring intervention supervenes. Dealing with hysteria he says, "Whenever I find that, from the medicine which I have thought fit to use, I am unable to give the patient reason to expect any definite benefit, I do no more than my duty as an honest and conscientious physician, when I just do nothing at all—simply visiting the patient from day to day, to see that he be no worse to-day than he was yesterday, nor yet likely to become worse by to-morrow. . . . Hence every day does one of two things,—it either adds to the safety of the patient, or else gives the physician an opportunity of discovering what means he has more certain of destroying the disease than his previous ones." This do-nothing kind of treatment must have been very difficult to carry out in Sydenham's day when the writing of extended prescriptions with many ingredients for each symptom that might arise was regarded as a fine art both by physicians and their patients. It has now become one of the most natural things in medical practice.

The great merit of Sydenham's practice consists, so far as we at the present day are concerned, not in this or that method of treatment introduced by him, but in the everlasting principles of medicine upon which he insists. His cooling method in fevers, his laudanum, his cinchona bark were great advances in their day but have long ago been superseded by the elaborate equipment of sanitary hospitals, by standardized alkaloids of

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opium, and by soluble preparations of quinine. Yet when we read his chapters upon the epidemic constitution of seasons, his frequent insistence that the physician must place his efforts in line with the indications of nature, his appeals to common sense in lines of treatment, his description of favourable and unfavourable signs, or his pictures of hysteria, chorea, and some other conditions which he first depicted, we are obliged to admit that he has written not for an age but for all time.

SYDENHAM'S RELIGION.

The Puritan ancestry of the Sydenham family and the cares and dangers undergone by its members in the Civil War conduced to gravity in thought and in deportment. One forms an impression from the house mottoes, the funerary emblems and epitaphs, and even the turns of phrase in books upon everyday mundane subjects of the seventeenth century, that when thought became serious it took on a heavy, even a sombre, mode of expression. The increasing ill-health from which Sydenham suffered during the latter half of his life, the nature of his disease, which in any case tends to produce melancholy, and the professional opposition and disappointment that he had to face, all tended to cause a gloomy cast of mind which was reflected in his writings. Yet through it shines a habitual patience and a wonderful sweetness and gentleness of character.

Already in 1676, when he was only 52, he writes to Dr. Mapletoft that he is old, that he seeks no glory or luxury, but only a quiet happiness for the remainder of his days, and he hints that he has become inured to the abuse of discourteous and ill-tempered men. Again, three years later to Dr. Brady he complains of the undeserved abuse wherewith he is harassed by many, and speaks of his solace being to do the work of an honest man and of a good physician. In the Epistle to Dr. Paman of the same year, 1679, he is in a more

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cheerful mood, and declares there is no reason which would so much induce him to pray for a long life, as the opportunity thereby given of doing something for the benefit of his fellow-men. Speaking in this Epistle of the venereal disease, about which "some have argued that its cure should not be taught," he remarks that "if we reject all cases of affliction which the improvidence of human beings has brought upon themselves, there will be but little room left for the exercise of mutual love and charity; God alone punishes; we, as we best can, must relieve."

Every now and then, just as in the works of Galen, we find in Sydenham's writings a sort of parenthesis referring to the Supreme Being. While the note that Galen strikes is one of admiration for the beneficence or skill of the Creator, Sydenham generally dwells upon the accountability of the physician for what he does. In the Library of the University of Cambridge is preserved a manuscript entitled *Theologia Rationalis*, by Dr. Thomas Sydenham. This forms an ethical inquiry as to how far the light of nature, if closely examined, may conduce to the "making of good men." The answer, to which the author leads, is that there is an order in man's nature which produces a threefold set of obligations towards God, society, and one's self.

In this connection we may close with a quotation from the preface to the first edition of the *Methodus Curandi Febres*, Sydenham's earliest work, which forms a sort of confession of his faith, and shows his idea as to the proper aim of the conscientious physician. "Whoever takes up medicine should seriously consider the following points: Firstly, that he must one day render to the Supreme Judge an account of the lives of those sick men who have been entrusted to his care. Secondly, that such skill and science as, by the blessing of Almighty God, he has attained, are to be specially directed towards the honour of his Maker and the welfare of his fellow-creatures; since it is a base thing for the great gifts of

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Heaven to become the servants of avarice or ambition. Thirdly, he must remember that it is no mean or ignoble animal with which he deals. We may ascertain the worth of the human race, since for its sake God's Only Begotten Son became man, and thereby ennobled the nature that He took upon Him. Lastly, he must remember that he himself hath no exception from the common lot, but that he is bound by the same laws of mortality and liable to the same ailments and afflictions with his fellows. For these and like reasons let him strive to render aid to the distressed with the greater care, with the kindlier spirit, and with the stronger fellow-feeling."

Sydenham died on December 29, 1689, at his house in Pall Mall, and was buried on December 31 in St. James's Church, Piccadilly, near the South door. The original inscription having disappeared, the College of Physicians in 1810 placed a tablet with the following epitaph:—

PROPE HUNC LOCUM SEPULTUS EST
THOMAS SYDENHAM
MEDICUS IN OMNE AEVUM NOBILIS
NATUS ERAT A.D. 1624
VIXIT ANNOS 65.

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(1) *Medical Observations*, by Thomas Sydenham. London, Martii 26, 1669. In Library of Royal College of Physicians. Partly in Sydenham's handwriting. Containing notes on various diseases and apparently a first sketch of *Observationes Medicae*.

(2) *Theologia Rationalis*, a short treatise on natural theology. In Cambridge University Library, and two copies in British Museum. Printed in Latham's edition of *Works*, vol. ii, p. 307.

(3) *Extracts of Sydenham's Physick Books*, in Bodleian Library, containing extracts from Sydenham's MS, and notes from his dictation, in the handwriting of John Locke. Published by W. A. Greenhill, Oxford, 1845, as *Anecdota Sydenhamiana*.

(4) *Petition to the Lord Protector*, dated March 3, 1653, in Sydenham's handwriting. Preserved in Record Office. Published by Dr. Gee in *St. Bartholomew's Hospital Reports*, vol. xix.

(5) *Letter to Dr. Gould*, of Wadham College, Oxford, dated December 10, 1667, deals with salivation and biographical details. Published by Dr. J. Brown in *Horae Subsecivae*, Ed. 1882, p. 93.

(6) *Letter to John Locke*, undated but written probably in 1674, giving medical advice. Quoted from Shaftesbury Papers in Payne's *T. Sydenham*, p. 245.

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(7) *Letter to Major W. Hale*, dated December 17, 1687, giving medical advice. Reproduced as Plate IV, p. 130; and in Appendix.

(8) *Letter to R. Boyle*, dated April 2, 1688, dealing with small-pox. Published by R. G. Latham in *Works*, vol. i, p. lxxii.

(9) *Letter to an unknown person* (undated), of advice about a child, reproduced in facsimile by Sir B. W. Richardson, *Asclepiad*, vol. ix, p. 385.

For details of Sydenham's life the following may be consulted:—

Memoir in *Biographia Britannica*, 1747. Life by Dr. Samuel Johnson prefixed to Swan's *Translation*, 1742. Lives by C. G. Kühn prefixed to *Opera*, 1827; by W. A. Greenhill, *Opera*, 1844; by R. G. Latham, *Works*, 1848; by F. Picard in *Sydenham, sa Vie, ses Oeuvres*, 1889; and by J. F. Payne in *Dictionary of National Biography*, 1898, and *Thomas Sydenham*, Unwin, London, 1900. Andrew Broun, *A new vindicatory Schedule of the new method of curing Fevers*, Edinburgh, 1691, for several facts communicated to him by Sydenham. Hutchin's *History of Dorset*, vol. ii, p. 703, for the Sydenham family pedigree. Burrows's *Register of the Visitors of Oxford*, 1881, and Wood's *Athenae*, 1721, for his university standing. Dr. John Brown's *Horae Subsecivae*, 1858, for his relations with John Locke. Also a number of articles for facts, anecdotes, critiques, &c., as follow: *Gentleman's Magazine*, 1743, p. 528; 1788, i, p. 34; 1789, ii, p. 1131; and 1801, ii, pp. 684 and 1071. *Lancet*, 1846, ii; and 1847, i and ii. *St. Bartholomew's Hospital Reports*, 1883, xix, p. 1; and 1890, xxvi, p. 187. *Asclepiad*, 1892, ix, p. 385.

PORTRAITS OF SYDENHAM.

(1) By Mary Beale. Presented to the Royal College of Physicians of London by William Sydenham (son) in 1691. Engraved by Blooteling for frontispiece of *Observationes Medicae*, 1676, *Opera* 1685 and later editions.

(2) By Sir Peter Lely (reputed). Presented to the Royal College of Physicians by Theophilus Sydenham (grandson) in 1747. Engraved by Houbraken 1746, by Golder 1785, and others.

(3) By an unknown painter. Presented to the Royal College of Physicians by Mr. Bayford in 1832.

MEDICAL OBSERVATIONS.

(*Observationes Medicae circa morborum acutorum
Historiam et Curationem.*)

The first edition of Sydenham's important work on fevers was published as the *Method of Curing Fevers based on Original Observations* in 1666. Febrile diseases had then a greater relative importance than they have now, because he estimated that they made up two-thirds of medical practice. The book, like all Sydenham's published works, appeared in Latin, and this first edition was dedicated to Robert Boyle, the eminent natural philosopher, who in 1660, by his air-pump, had demonstrated the fundamental necessity of air in maintaining life, and who, as Sydenham says, had shown his great interest in medicine by visiting fever patients along with the author. The book consisted of four sections: On Continued Fevers; On certain symptoms which accompany Continued Fevers; On Intermittent Fevers; and On Smallpox. That its value was immediately perceived is plain, from the fact that it has a lengthy review in the *Philosophical Transactions* (later called the *Transactions of the Royal Society*) for July 6, 1666. The review is explanatory rather than critical, but it is complaisant, and sums up "For the cure, he advises, in short, to permit Nature to do her own work, requiring nothing of the physician, but to regulate her when she is exorbitant, and to fortify her when she is too weak."

The little book was so well received that a second edition appeared in 1668. A continental edition had already appeared at Amsterdam in 1666. In 1676 it was re-issued, entirely remodelled and extended, the title now

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being changed to *Medical Observations concerning the History and Cure of Acute Diseases*. In 1676 and in 1683 continental editions were published at Strasburg and at Geneva and Amsterdam. In 1685 a fourth edition, with little further change, appeared. The final form of the work gives an exposition of acute febrile diseases arranged according to their successive predominance during the period from 1661 to 1675. In the following extract the key chapters dealing with the Epidemic Constitution of the succession of years are given, and the plan of the whole work is as follows :—

SECTION I.

Chapter I.—On Acute Diseases in general. Chapter II.—On Epidemic Diseases. Chapter III.—The Epidemic Constitution, of the years 1661, 1662, 1663, 1664, in London. Chapter IV.—The Continued Fever of the years 1661, 1662, 1663, 1664, in London. Chapter V.—The Intermittent Fevers of the years 1661, 1662, 1663, 1664, in London.

SECTION II.

Chapter I.—The Epidemic Constitution of the years 1665, 1666, in London. Chapter II.—The Pestilential Fever and Plague of the years 1665, 1666.

SECTION III.

Chapter I.—The Epidemic Constitution of the years 1667, 1668, and part of 1669, in London. Chapter II.—The Regular Smallpox during the years 1667, 1668, and part of 1669. Chapter III.—The Continued Fever of the years 1667, 1668, and part of 1669.

SECTION IV.

Chapter I.—The Epidemic Constitution of part of the year 1669, and of the whole of 1670, 1671 and 1672, in London. Chapter II.—The Cholera Morbus of the

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year 1669. Chapter III.—The Dysentery of part of 1669, and of the whole of 1670, 1671, and 1672. Chapter IV.—The Measles of the year 1670. Chapter V.—The Anomalous Smallpox of the years 1670, 1671, 1672. Chapter VI.—The Bilious Colic of the years 1670, 1671 and 1672.

SECTION V.

Chapter I.—The Epidemic Constitutions of part of the year 1673, and of the whole years 1674, 1675. Chapter II.—The Continued Fever of the years 1673, 1674, 1675. Chapter III.—The Measles of the year 1674. Chapter IV.—The Irregular Smallpox of the years 1674, 1675. Chapter V.—The Epidemic Coughs of the year 1675, with the Pleurisy and Peripneumonia that supervened. Chapter VI.—Recapitulation.

SECTION VI.

Chapter I.—Intercurrent Fevers. Chapter II.—Scarlet Fever. Chapter III.—Pleurisy. Chapter IV.—Bastard Peripneumonia. Chapter V.—Rheumatism. Chapter VI.—Erysipelatous Fever. Chapter VII.—Quinsy.

This work forms an important contribution to medical progress for several reasons. In the first place no attempt had been made up to Sydenham's time to arrange fevers. Some of the more obvious exanthemata like measles and smallpox were clearly recognized, but otherwise when a patient had a fever there was no further inquiry as to its cause or differences from other fevers. Sydenham indicates that they belong to different species and that each has primarily a special cause. He attributes these causes partly to the "particles of the atmosphere," partly to the "different fermentations and putrefactions of the humours," of which the body is unable to get rid "because of their amount or the incongruity of their qualities." In this he is using general terms, which he is careful to explain are only rough analogies; and if we

translate this into modern terminology he means that fevers are due partly to invasion by micro-organisms and partly to the toxins of which the body cannot get rid because of the largeness of the dose or want of immunizing power. The doctrine of a "contagium vivum" was not, however, invented by Sydenham, though it was agitating scientific circles in his time. Fracastor, a century previously, had revived this old theory, had recognized different methods of infection and used the word "fomites" in the modern sense. Later Harvey's friend, Sir George Ent, had definitely accepted the view of infection as being due to minute organisms, while Sydenham's friends, William Cole and Sir Thomas Millington, were busy with similar researches. At the very time when Sydenham was revising his *Method of Curing Fevers*, Leeuwenhock, with whose communications to the Royal Society Sydenham must have been familiar, was describing protozoa as seen under the microscope (1675) and figuring bacilli and clumps and chains of organisms (1683). Those who are interested in this matter should refer to the admirable paper on "The Development of the Doctrine of Contagium Vivum 1500-1750," by C. and D. Singer in Section XXIII of the *Proceedings of the International Congress of Medicine*, 1913.

Sydenham further attempts to show that epidemics of acute disease vary greatly according to outside causes, the nature of the season and the "crisis" or temperament of individuals. Fevers, he insists, come in cycles, and one fever, as it were, drives out another; though he is careful to point out that the cycle cannot be predicted, and it would not have surprised him could he have learned that in two hundred years after his time smallpox, then universal, would have practically disappeared, and that plague would never again visit England in a serious fashion.

It may be observed that at the present day we are so much occupied with the proximate causes of disease (bacteria, protozoa, &c.) that we fail to a great extent to

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give attention to the ultimate or essential causes which produce their diffusion, virulence, &c. These ulterior causes, however (*occulta aeris influentia*), chiefly attracted Sydenham's attention, and in this respect he may be regarded as the founder of the modern science of Epidemiology. His views on the diffusion of the "particles" that cause epidemics of acute disease, are mentioned incidentally in describing the differences between acute and chronic diseases in the *Treatise on Gout* (see pp. 75-6).

Finally, Sydenham's account of the fifteen years 1661-1675 gives a valuable historic record of the prevalence of infectious diseases during this period. One more point worth noting is that Sydenham includes in the same class of infectious diseases the "intercurrent fevers" scarlatina (first described by him), pleurisy, pneumonia, acute rheumatism, erysipelas, and quinsy, which the modern view again regards as general diseases with a local manifestation. He subsequently (in a post-script to the treatise on Dropsy) adds another to the intercurrent fevers which he states he has omitted by inadvertence. This is the "winter fever" which from its description is apparently what we should call "influenza."

MEDICAL OBSERVATIONS
CONCERNING THE
HISTORY AND CURE OF ACUTE DISEASES.

SECTION I.

CHAPTER I.—OF ACUTE DISEASES IN GENERAL.

A DISEASE, in my opinion, how prejudicial soever its causes may be to the body, is no more than a vigorous effort of Nature to throw off the morbid matter, and thus recover the patient. For as God has been pleased so to create mankind, that they should be fitted to receive various impressions from without, they could not, upon this account, but be liable to different disorders; which arise (1) either from such particles of the air, as having a disagreement with the juices, insinuate themselves into the body, and, mixing the blood, taint the whole frame; or (2) from different kinds of fermentations and putrefactions of humours detained too long in the body, for want of its being able to digest, and discharge them, on account of their too large bulk, or unsuitable nature.

These circumstances being so closely interwoven with our constitutions that no man can be entirely free from them, Nature provides such a method, and train of symptoms, as may expel the peccant matter that would otherwise destroy the human fabric. And though this end would be more frequently obtained by these disagreeable means, were not her method obstructed through unskilfulness; yet, when left to herself, either by endeavouring too much, or not enough, the patient pays the debt of mortality; for it is an immutable law that no generated being can always continue.

A little to exemplify this doctrine: What is the *plague* but a complication of symptoms to throw out the morbid particles (taken in with the air we breathe) through the proper emunctories,

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by way of external abscess, or other eruptions? What is the *gout*, but the contrivance of Nature to purify the blood of aged persons, and, as *Hippocrates* phrases it, to purge the recesses of the body? And the same may be said of many other diseases, when they are perfectly formed.

But Nature performs this office, quicker or slower, according to the different methods she takes to expel the morbid cause. For when a fever is required to loosen the morbid particles from the blood, to promote their separation, and at length discharge them by sweat, a looseness, eruptions, or other similar evacuation; as this effect is produced in the mass of blood, with a violent motion of the parts, it follows that the change, to recovery or death, must be sudden (according as Nature can conquer the morbid matter by a crisis, or is forced to submit) and that these efforts must be joined with violent and dangerous symptoms. And of this kind are all *acute diseases*, which come to their state with rapidity, violence and danger. Now, in this way of speaking, all those diseases may be esteemed *acute*, which, with respect to their fits taken together, go on slowly, but with respect to a single fit are soon terminated *critically*, of which kind are all intermittent fevers.

But where the matter of the disease is such that it cannot raise the assistance of a fever, for its thorough discharge, or is fixed upon a particular part too weak to expel it, either on account of the peculiar structure of that part (as in the palsy, where the morbid matter is fixed in the nerves, and an empyema, where it is discharged into the cavity of the chest) or through a want of natural heat and spirits (as when phlegm falls upon the lungs weakened by age, or an habitual cough), or lastly, from a continual afflux of new matter, whereby the blood becomes vitiated, and by its vigorous endeavours to throw it off overpowers and oppresses the part affected; in all these cases the matter is slowly brought to concoction or not at all; and therefore diseases proceeding from such indigestible matter are what we properly term *chronic*. And from these two contrary principles, acute and chronic diseases respectively arise.

As to acute diseases, of which I now design to treat, some of them proceed from a latent and inexplicable alteration of the air, infecting the bodies of men, and not from any peculiar state or disposition of the blood and juices, any further than an occult

influence of the air may communicate this to the body. These continue only during this one secret state, or constitution of the air, and, raging at no other time, are called *epidemic distempers*.

There are other acute diseases arising from some peculiar indisposition of particular persons; but as these are not produced by a general cause, few are seized with them at once. These also appear in all years, and at any time of the year indifferently, some exceptions admitted, which I shall hereafter mention in treating of this kind particularly. These I call *intercurrent* or *sporadic* acute diseases, because they happen at all times when epidemics rage. I will begin with epidemics, and chiefly propose to give a general history thereof.

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CHAPTER III.—THE EPIDEMIC CONSTITUTION OF THE YEARS 1661, 1662, 1663, 1664, AT LONDON.

THE autumnal intermittent fevers which had reigned for several years back appeared with new force in the year 1661, especially a bad kind of tertian, about the beginning of July, which continually increased, so as to prove extremely violent in August, seizing almost whole families in many places with great devastation; after which it gradually decreased upon the coming on of the winter, so as to appear seldom in the month of October. The symptoms that attended these tertians differed from those of the intermitting tertians of other years, chiefly in the following particulars: (1) the fit was more severe; (2) the tongue more black and dry; (3) the intermission between the fits not so manifest; (4) the loss of strength and appetite greater; (5) a greater tendency to a double fit; (6) all the concomitants in short more violent; (7) and the disease itself more mortal than intermitting fevers usually are; (8) when it happened in persons aged or of a bad habit of body, where, besides, either bleeding or any other evacuations had diminished the strength, it would continue for two or three months.

A few quartans accompanied these tertians, but both of them went off upon the first coming on of winter (for they seized upon none that were unaffected by them before) and were followed by a continued fever, differing from the nature of autumnal

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intermittents only in this; that *they* happened at stated times, but *this* without intermission; for they both seized almost in the same manner, and those that were violently attacked with either had a vomiting, dryness of the external parts, thirst, and blackness of the tongue; sweats also, towards the end of the distemper, readily discharged the morbid matter in both cases.

And it may even from hence appear that this fever belonged to the class of autumnal intermittents, because it very rarely showed itself in the spring. This continued fever, therefore, appeared to me a kind of compendium of the intermittent; as, on the other hand, each single fit of the intermittent was a kind of compendium of the continued fever. The difference between them consisted chiefly in this, that the continued fever finished its period of effervescence all at once, in the same constant course; but the intermittent, by attacks, at different times.

How long this continued fever had prevailed I cannot say, having been hitherto sufficiently employed in observing the general symptoms of fevers, and not yet finding that fevers might be distinguished, with regard to the various constitutions of different years, or the different seasons of the same year. This, however, I know, that there was only one species of continued fevers to the year 1665, and that the autumnal intermittents, which were frequent to that year, appeared afterwards very rarely.

The above-mentioned tertian fever, which spread very wide in 1661, as was said above, narrowed itself in the succeeding year; for in the following autumns quartans prevailed over the other epidemics during this constitution of the air. As the quartans always grew milder after the autumn, the continued fever, which appeared more rarely during all this time, now raged more violently till the spring, when vernal intermittents succeeded, which also going off at the beginning of May, the small-pox appeared a little, but disappeared again upon the coming in of the autumnal epidemics, viz., the continued fever and quartans, which then reigned. In this order did the epidemic diseases appear and succeed each other during this whole constitution of the air, of which I am now to treat in particular, especially of the continued fever and intermittents, whether vernal or autumnal, these being the chief distempers of this constitution.

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I begin with this continued fever, which appears to me of a more capital kind than any of the rest, because nature here brought the febrile matter to a due concoction, and expelled it when concocted, in a limited time, more uniformly and regularly than in any other fever. Moreover, as those constitutions of the year which favour autumnal intermittents return more frequently, taking one year with another, than such as produce other epidemics, it follows that the continued fever attending intermittents occurs oftener than any other continued fever.

Besides the symptoms which accompanied other fevers, the present fever had these in particular, viz. : (1) a great faintness; (2) vomiting; (3) a dry and black tongue; (4) great and sudden loss of strength; (5) a dryness of the external parts; (6) the urine constantly either turbid or thin, both of them here equally signs of crudity; (7) a looseness in the decline, unless the physician happened to stop it at first, whereby the disease was prolonged, and rendered more obstinate; (8) but in its own natural course it scarce lasted above fourteen, or one and twenty days, when it went off with a sweat, or rather a gentle moisture; (9) nor did any proper signs of concoction appear before in the urine, but at this time there generally did.

Other symptoms also arose when this distemper was unskillfully treated; however, as not only these, but the nature of the distemper itself will more clearly appear, from the particular method which I formerly adapted to this fever, I shall here set it down as it was then published, at least as far as it regards the present purpose, though at that time I was not aware of there being any other species of fever in nature.

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SECTION II.

CHAPTER I.—THE EPIDEMIC CONSTITUTION OF THE YEARS 1665 AND 1666, AT LONDON.

THE preceding winter having been extremely cold, and accompanied with a continued frost till spring, which went off suddenly towards the end of March, that is, in the beginning of the year 1665, according to the *English* computation of time, there then arose *peripneumonies*, *pleurisies*, *quinsies*, and other inflammatory disorders, which quickly made great devastation;

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and with these there also appeared a continued *epidemic fever*, of a very different kind from those of the foregoing constitution, which usually seized scarce anybody at that time of the year. For (1) the pain in the head here was more violent; (2) the vomitings more copious; (3) and the looseness, which was generally prevented in the former fevers by a vomit, was increased thereby in the present fever, and yet the vomiting continued; (4) the external parts were dry, as in the fevers of the preceding constitution, but after bleeding, especially, a sweat was easily procured, and being encouraged soon abated the symptoms, and this might be done at any time of the disease, whereas in those fevers it could not be safely attempted till the thirteenth or fourteenth day, and was not easily raised then; (5) the blood taken away in this fever often resembled that of persons in pleuritic and rheumatic disorders, but was less sily.

These were the diagnostic signs of this disease at its rise; but towards the middle of the year the *plague* appeared, accompanied with several of its peculiar symptoms, as *carbuncles*, *buboes*, &c., and spreading more and more every day, came to its height about the *autumnal equinox*, at which time it destroyed near eight thousand persons in one week, though at least two-thirds of the inhabitants had retired into the country to avoid the infection. Afterwards it began to abate, and was so far conquered by the winter's cold, as to seize very few during that season and the following spring, when it went off entirely, whereas the fever prevailed (though not so epidemically) all the subsequent year and continued to the spring of the year 1667. I proceed now to treat of this *fever* and the *plague*.

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SECTION III.

CHAPTER I.—THE EPIDEMIC CONSTITUTION OF THE YEARS 1667, 1668, AND PART OF 1669, AT LONDON.

IN the year 1667, at the approach of the *vernal equinox*, the *small-pox*, which during the immediately preceding *pestilential constitution* appeared very rarely or not at all, began to show itself, and spreading more and more every day, became *epidemic* about *autumn*; after which, its violence being abated by degrees,

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upon the coming on of the *winter* it decreased, but returned again the following spring, and prevailed, till it was checked, as before, by the subsequent *winter*. It afterwards increased a third time with the approaching *spring*, but did not then rage so severely, nor so generally, as it had done the two foregoing *summers*, and in *August*, 1669, it totally disappeared, and was succeeded by an *epidemic dysentery*. The *small-pox* was more general in town for the first two years of this constitution than I ever remember it to have been either before or since, and nevertheless, as it was at that time the genuine and a kindly sort, it destroyed few in comparison of the multitudes that were seized with it.

At the same time the *small-pox* first appeared there arose a new kind of *fever* not much unlike it, except in the eruption of the pustules and the symptoms thereon depending, of which I shall treat particularly in the following pages. This *fever*, though it affected fewer persons by far than the *small-pox*, did notwithstanding last as long; but in the *winter*, when that abated; this prevailed, and when the *small-pox* returned again in the *spring*, the *fever* went off, so as thus to leave the *small-pox* the *predominant epidemic* of this constitution; the *fever* notwithstanding never manifestly ceased during this space, till at length it totally disappeared, together with the *small-pox*, in *August*, 1669.

These two *epidemic* diseases were accompanied by a third, especially the last *summer*, wherein this constitution prevailed, viz., a *looseness*, the constitution of the air then inclining to the subsequent *dysentery*. But however this be, at least it appeared that this disease so nearly resembled the reigning *fever*, that it should seem to be only the *fever* turned inwards, and fixed upon the bowels.

I shall treat of these three disorders separately, which may justly be called the sole *epidemics* of this constitution. I begin with the *small-pox*, of which I shall discourse more at large, because the kind that prevailed during this term of years seemed to me to be more particularly *genuine* and *regular* than any other, inasmuch as it exhibited the same phenomena, and was everywhere attended with the same train of symptoms in all that were seized with it; from which, therefore, as being the most perfect in its kind, a true history of this disease, and the method of cure are to be taken.

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For it must be observed that every particular constitution of years has not only a proper and peculiar *fever* belonging thereto, but also a peculiar kind of *small-pox*, which resembles this species for this course of years, but a different one in the following years, though they may seem to resemble each other as to certain appearances which are common to all the kinds. So much does nature vary in the production of *epidemic* diseases.

But to resume the subject. I will first give the history of this kind of the *small-pox*, which I therefore call the *regular* kind, to distinguish it from the *irregular* kinds of the following years; and I will also subjoin the method of cure, which was attended with all desirable success.¹

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SECTION IV.

CHAPTER I.—THE EPIDEMIC CONSTITUTION OF PART OF THE YEAR 1669, AND OF THE YEARS 1670, 1671, 1672, AT LONDON.

IN the beginning of *August*, 1669, the *cholera morbus*, the *dry gripes*, and likewise a *dysentery* that rarely appeared during the ten preceding years, began to rage. But though the *cholera morbus* proved more epidemic than I had ever known it before, yet nevertheless it terminated this year in *August*, as it always does, and scarce reached the first weeks of *September*. But the *dry gripes* continued to the end of *autumn*, and accompanied the *dysentery*, and prevailed more generally than that disorder. But upon the coming in of *winter* this disorder likewise vanished, and appeared no more throughout the subsequent years wherein this constitution prevailed, whereas the *dysentery* became more epidemic. Now I judge the cause of this to have been, that the then reigning constitution had not yet so perfect a tendency to a *dysentery* as to be able to produce all those symptoms in every subject which affect such as are seized with this disease, for in the following *autumn*, when the *gripes* re-

¹ Sydenham's description and treatment of small-pox, as taken from his *Processus Integri*, are given at p. 144.

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turned, the *dysentery* was accompanied with every pathognomonic symptom.

Between these gripes and the above-mentioned dysentery, which raged very universally, a new kind of fever arose, and attended both diseases, and not only attacked such as has been afflicted with either of the former, but even those who had hitherto escaped them, unless that sometimes, though very seldom, it was accompanied with slight gripings, sometimes with stools and at others without. Now as this fever in some measure resembled that which frequently attended the above-mentioned diseases, it must be distinguished from others by the title of the *dysenteric fever*; especially since, as we shall afterwards show, it only differed from the genius and nature of the dysentery in this particular, that it had not those discharges which always accompany the dysentery, nor the other effects necessarily occasioned by this evacuation. Upon the approach of winter the dysentery vanished for a time, but the dysenteric fever raged more violently, and a mild *small-pox* also appeared in some places.

In the beginning of the following year, namely, in *January*, the *measles* succeeded, and increasing every day till the vernal equinox, suffered few families, and particularly no children, to escape. But from this they abated nearly in the same degree they had increased, and appeared no more throughout all those years wherein this constitution prevailed, excepting only the following year, in which they seized a few at the same time they arose in the preceding year.

This kind of the *measles* introduced a kind of *small-pox* which I was hitherto unacquainted with, so that to distinguish it from the other kinds I choose to entitle it the *anomalous* or *irregular small-pox* of the *dysenteric constitution*, because of its irregular and uncommon symptoms, which differed considerably from those of the *small-pox* of the foregoing constitution, as will appear hereafter, when we come to give the history thereof. This small-pox, though not near so common as the measles, attacked several persons, till the beginning of *July*, when the dysenteric fever prevailed and became epidemic. But upon the approach of autumn, namely, in *August*, the dysentery returned, and made a greater devastation than in the preceding year, but it was checked by the winter's cold as before, and these being

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conquered, the dysenteric fever and small-pox raged the winter throughout.

But about the beginning of *February* in the following year *intermittent tertians* arose, whence both diseases became less frequent. And though these tertians were not very epidemic, yet they prevailed more generally than any I had ever seen at any other time since the close of that constitution, which, as we before observed, had so remarkable a tendency to produce them. But these, according to the manner of vernal intermittents, went off immediately after the summer solstice. In the beginning of *July* the dysenteric fever again resumed the station it held in the preceding years; and towards the decline of autumn the dysentery returned a third time, but did not rage so much as in the immediately foregoing year, wherein it seemed to have arrived at its height; but upon the approach of winter it vanished, and the dysenteric fever and small-pox prevailed during the rest of that season.

We observed above that at the beginning of the two preceding years two remarkably epidemic diseases raged, e.g., the *measles* at the beginning of 1670, and *intermittent tertians* at the beginning of 1671, and prevailed so considerably as to overpower the small-pox, and prevent its spreading much in the beginning of these years. But in the beginning of 1672, when those obstacles to its progress were removed, and this distemper reigned alone, it of course proved very epidemic till *July*, when the dysenteric fever again prevailed, but soon gave place to the dysentery, which returned a fourth time in *August*, and was then not only less frequent but attended with milder symptoms than in the former years. Moreover the small-pox likewise attacked a few, so that it was not easy to distinguish which of the two diseases prevailed. I conceive indeed that the constitution of the air, having a less tendency to produce the dysentery, rendered the small-pox powerful enough to equal it, otherwise than it happened in those years wherein the dysentery proved extremely mortal in *August*. The winter, as usual, put a stop to the dysentery, but the fever and small-pox remained, and the latter, according to its nature, became the chief disease and continued all winter, and attacked a few in the following spring and likewise in the beginning of summer; but it was considerably milder than this kind had been before.

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But when I affirm that one epidemic disease is expelled by another, I do not mean that the yielding disease becomes quite extinct, but only less frequent; for during this constitution each disease appeared even in that season which least favoured it. For instance, the dysentery, though it be a disease particularly belonging to *autumn*, did perhaps attack a few in the spring, but very rarely.

We have therefore sufficiently proved that, during the course of this constitution, the dysenteric fever prevailed in the beginning of *July*, in which month *autumnal* fevers as certainly arise as *vernal* ones do in *February*. But upon the approach of autumn the dysentery succeeded it, which, strictly speaking, is an autumnal disease; and this being overcome by the winter, the dysenteric fever and the small-pox prevailed, which last distemper continued all that winter, the next spring, and ensuing summer, till the return of *July*, when it was expelled by the epidemic dysenteric fever. And these were the revolutions that happened whilst this constitution lasted.

It must further be observed, that as each epidemic disease is attended with its periods of increase, height, and decline in every subject, so likewise every general constitution of years that has a tendency to produce some particular epidemic has its periods, according to the time it presides, for it grows every day more violent till it comes to its height, and then abates nearly in the same degree till it becomes extinct and yields to another. But with respect to the symptoms, they are most violent in the beginning of the constitution, after which they gradually abate, and in the close thereof are as mild as the nature of the disease, whence they proceed, will give leave, which appears manifest in the dysentery and small-pox of this constitution, as we shall presently show more at large. I proceed now to treat particularly of the diseases of this constitution, according to the order which they observed.

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SECTION V.

CHAPTER I.—THE EPIDEMIC CONSTITUTION OF PART OF THE YEAR 1673, AND OF THE YEARS 1674, 1675.

ABOUT the beginning of *July* in 1673 there arose another kind of fever, which did not prove very epidemic, because the constitution was not yet so entirely disposed to favour it, as wholly to exclude the diseases of the preceding constitution. For that kind of small-pox which began in 1670 was not yet extinct, though it appeared less frequently, and the symptoms were milder; so that these two diseases prevailed almost equally, but neither very severely, the former constitution being not so totally gone off as to leave none of the diseases belonging thereto (for the dysentery continued to attack a few) and the then reigning constitution not being so perfectly established as to produce such as might exterminate all other distempers.

The small-pox and this fever continued equally prevalent during this autumn and the following winter, but neither of them raged with great violence, and the dysentery was in a manner extinct. But in *November* following, a sharp frost of some days being unexpectedly succeeded by warmer weather than I ever remember to have observed at this season, some few persons were seized with the dysentery a little before and about *Christmas*; but it seemed then to be going off, and in a short time afterwards this kind of it at least quite vanished.

The next year the measles appeared very early, namely, in *January*, and proved as epidemic as that kind which began about the same time in 1670. For few families escaped it, and it attacked children especially; but it was not so regular in its stages as that which prevailed in the above-mentioned year. But I shall say more of the difference between them when I come to treat of this kind more particularly. It increased every day more and more till the *vernal* equinox, after which it abated as gradually, and at length went off soon after the summer solstice.

As the epidemic measles of 1670 introduced the *black small-pox* above described, so the present kind, which appeared in the beginning of the current year 1673, being equally epidemic, was accompanied with a similar kind of small-pox. For whereas the small-pox of the preceding constitution, as hath

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been already observed, after the first two years, gradually abated of their blackness, and also increased proportionately in size, till towards the end of the year 1673, when, considering the kind, it was mild and favourable, it now returned with its former violence and attended with very dangerous symptoms. This kind of small-pox prevailed during the following autumn, and continued longer than usual in winter, which, on account of its uncommon warmth, favoured this disease; but when colder weather came in it abated, and soon gave place to the present epidemic fever.

This fever, which had continued the whole year, made great devastation in the beginning of *July*, 1675, but at the approach of *autumn* it began to strike in upon the bowels, appearing sometimes with the symptoms of a dysentery, and at others with those of a diarrhœa; though sometimes it was free from both, and rather seized the head and caused a kind of *stupor*. In the meanwhile the small-pox, which attacked only a few subjects here and there, disappeared entirely towards the *autumnal* equinox, and now the fever, having overcome the other epidemics, became the capital disease of the year. It must however be observed, that as this fever was much disposed to throw off the morbid matter upon the bowels, which sometimes occasioned a dysentery, but more frequently a diarrhœa, so upon this account the gripes were generally supposed to have destroyed the numbers that died at this time, whereas in reality their death was rather to be ascribed to the fever, for such as attended the sick during this *autumn* knew how much the fever prevailed, so that both the dysentery and the diarrhœa ought rather to be accounted *symptoms*, than *essential* and *original* diseases.

This fever proceeded in this manner during the *autumn*, sometimes seizing the head, at others the bowels, everywhere raging under the appearance of symptoms peculiar to those parts, till the end of October, when the weather, which till now had continued in a manner as warm as summer, changed suddenly to cold and moist, whence catarrhs and coughs became more frequent than I remember to have known them in any other season. But it is of most moment to observe that the stationary fever of this constitution usually succeeded these coughs, and hence became more epidemic, and likewise varied

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some of its symptoms. For whereas some little time before, as above mentioned, it attacked the head and bowels, now it chiefly seized the lungs and *pleura*, whence arose peripneumonic and pleuritic symptoms; though it was still precisely the same fever that began in *July*, 1673, and continued without any alteration of its symptoms till the rise of these catarrhs.

These catarrhs and coughs continued to the end of *November*, after which time they suddenly abated. But the fever still remained the same as it was before the catarrhs appeared, though it was neither quite so epidemic nor accompanied with the same symptoms, both these depending accidentally upon the catarrhs. Moreover upon their going off a small-pox, manifestly of the same kind with that of the preceding year, began to attack a few persons here and there; but as they had now almost completed their second year, the symptoms were not so violent as in the beginning.

I cannot say how long this constitution will prevail, but this I certainly know, that it has hitherto been very anomalous and irregular, as have likewise all the diseases occasioned thereby. I proceed now to treat of the epidemics of this constitution, in the order wherein they succeeded each other.

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SECTION VI.

CHAPTER I.—OF INTERCURRENT FEVERS.

THE observations of the preceding years, above delivered, sufficiently show that some fevers are deservedly entitled *stationary fevers*; I mean such as arise from some peculiar constitution of a particular year not yet sufficiently known. Every one of these prevails in its order, and rages with great violence, having, as it were, the ascendant over all the rest during that continued course of years. Whether there are any other species besides those just mentioned, or whether they succeed each other in a certain term of years in a constant and invariable order, or whether it be otherwise, I have not yet been able to discover. But there are also other continued fevers which, though they sometimes rage less and at other times more severely, yet because they are mixed with all kinds of

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stationary fevers, and likewise with each other indifferently in the same year, I conceive they should be called *intercurrents*. I shall in the following sheets communicate all I have learnt from observation concerning the nature of these fevers and the method of curing them; they are, the *scarlet fever*, *pleurisy*, *bastard peripneumony*, *rheumatism*, *erysipelalous fever*, *the quinsy*, and perhaps some others.

But all these diseases are, during their state, or at least were, accompanied with a fever, till it went off, the febrile matter being thrown upon some particular part, according to the nature of the distemper, I question not that the fever is to be accounted the primary disease, and that the other disorders whence those diseases generally derive their names, are symptoms, which chiefly regard either the peculiar manner of the *crisis* or the part principally affected. But provided the thing be agreed upon, I will not contend about names, though I take the liberty to call a disease by the particular name which pleases me best.

It must be observed, that as the *stationary fevers*, of which we have treated above, prevailed more or less epidemically, as we said, according as they were favoured by the constitution of years, resulting from a secret and inexplicable temperature of the air; so likewise did these *intercurrents* sometimes, but less frequently. For though they generally arise from some peculiar disorder of particular bodies, whereby the blood and juices are some way vitiated, yet sometimes they proceed *mediately* from some general cause in the air, which, by its manifest qualities, so disposes the human body as to occasion certain disorders of the blood and juices, which prove the immediate causes of such *epidemic intercurrents*. As, for instance, when a sharp frost, which has lasted a long time, and continues late in the spring, is suddenly succeeded by warmer weather, *pleurisies*, *quinsies* and the like diseases usually arise, whatever the general constitution of the year. And because these diseases, which happen indifferently in all years, do sometimes rage as epidemically as those which continue only for a certain course of years, we choose to call them *intercurrents*, in order to distinguish them from the latter.

But notwithstanding the considerable difference there is between these two kinds of fevers, with respect to the causes

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proceeding from the air, yet they frequently agree in other external and *procatarctic* causes. For not to mention *infection*, which sometimes communicates stationary fevers, and *surfeits*, which give rise to both stationary and intercurrent fevers, the manifest external cause of the greater part of fevers is to be sought for hence: either (1) a person hath left off his clothes too soon, or (2) imprudently exposed his body to the cold after being heated with violent exercise, whence the pores being suddenly closed, and the perspirable matter retained in the body that would otherwise have passed through them, such a particular kind of fever is raised in the blood, as the then reigning general constitution, or the particular depravity of the juices, is most inclined to produce. And indeed I am of opinion that abundance more have been destroyed by this means than by the *plague*, *sword* and *famine* together; for if a physician examines his patient strictly concerning the first occasion of the disease he will generally find it to proceed from one of these causes, provided it be of the number of those acute diseases we have treated of above. Upon this account I always advise my friends never to leave off any wearing apparel till a month before midsummer, and not to expose themselves to the cold after being heated by exercise.

But it must here be carefully remarked that though the diseases I am now to treat under the title of *Intercurrents* were most, if not all of them, *essential* diseases, yet frequently certain disorders happen in *stationary* fevers, resembling these *intercurrents* as to the phenomena, and likewise characterized by the same name, which however are manifest symptoms of those fevers. Now in this case they are not to be treated by the method which is to be used when they are essential diseases, but rather by that which the fever requires, whereof they are now symptoms, which method is only to be slightly adapted to their particular cure; but, in general, great attention is to be had to the fever of the year, and to find out the easiest method of conquering it, whether by bleeding, sweating, or any other procedure, for if this be disregarded we shall frequently mistake, to the great detriment of the patient. Should it be objected that the disorders under consideration, which I term *essential*, are in reality only symptoms, I reply, that perhaps they may be symptoms with respect to the fever whereto they properly

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belong, but they are at least symptoms of fevers which always necessarily produce them. To exemplify this matter: in an *essential pleurisy* the fever is of such a nature as always to deposit the morbid matter upon the *pleura*. In an *essential quinsy*, of such a nature as always to throw off the morbid matter upon the throat; and thus it happens in the rest: whereas when any one of the above-mentioned diseases succeeds a fever that belongs to a particular constitution of years, and is dependent thereupon, it is then produced *accidentally* only, and no way necessarily, for which reason there is a remarkable difference between them.

But in order to distinguish rightly between *essential* and mere *symptomatic* disorders, it is of moment to consider that the same symptoms which accompany any particular *stationary fever* at the beginning will likewise happen at the same time in a *pleurisy* or *quinsy*, when these are only accidental symptoms of such a fever. We had a proof of this in the above-mentioned *symptomatic pleurisy*, that succeeded the fever which prevailed in this winter of 1675. For all that were seized with the *pleurisy* were afflicted in the beginning with a pain in the head, back and limbs, which were the most certain and common symptoms of all those fevers that preceded the *pleurisy*, and continued after that disease went off. Whereas when either of these *intercurrents* is the *essential* disease, it attacks in the same manner in all years indifferently, having nothing at all in common with the then prevailing *stationary fever*. Besides, all the symptoms that afterwards arise are more apparent, as not being concealed and perplexed by a mixture of other phenomena of a different nature, and belonging to another fever. Again, the time of the year wherein the greater part of *essential intercurrents* usually make their appearance frequently points out the kind of disorders whereto they should be referred. But, lastly, he is best qualified to discover the diagnostic signs, both of these, and all other diseases who, by daily and diligent observation, hath searched so intimately into their nature and symptoms as at first sight to be able to distinguish the *genus*, though perhaps the characteristic differences of some of them may be so very subtile that he cannot express them by words to another.

But as these different species of fevers, so far as I can learn

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by carefully considering their concomitance, and the method of cure proceed from an inflammation of the blood, peculiar to every disease, I place the principal part of the cure in cooling the blood. In the meantime I always endeavour to expel the morbid matter by a method of cure varied according to the nature of the disease, and which experience shows to be readily curative of the particular species thereof. In reality whoever certainly knows how to expel the febrile matter, either by bleeding, sweating, purging, or any other more proper way, must have the best success in the cure of all fevers.

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CHAPTER II.—OF THE SCARLET FEVER.

THOUGH the *scarlet fever*¹ may happen at any time, yet it generally comes at the close of summer, when it seizes whole families, but especially children. (1) A chillness and shivering come at the beginning, as in other fevers, but without great sickness; (2) afterwards the whole skin is covered with small red spots, which are more numerous, larger and redder, but not so uniform as those which constitute the measles; (3) they continue two or three days, and after they are vanished, and the skin is scaled off, there remains a kind of branny scales dispersed over the body, which fall off and come again for twice or thrice successively.

As this disease seems to be nothing more than a moderate effervescence of the blood, occasioned by the heat of the preceding summer, or some other way, I do nothing that may prevent the despumation of the blood and the expulsion of the peccant matter through the pores, which is quickly enough performed. Accordingly, I refrain from bleeding, and the use of glysters, which make a revulsion, whereby I can see the noxious particles are more intimately mixed with the blood,

¹ *Febris scarlatina* is the name which was coined by Sydenham for this disease described here (1676) for the first time, and by which it has been known since his date. It was more fully described by R. Morton ("Opera Medica," 1699), with records of 11 cases, but Morton regarded it as a variety of measles.

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and the motion which is more agreeable to nature is checked. On the other hand, I forbear cardiacs, by the heat of which the blood may perhaps be put into a more violent motion, than so gentle and mild a separation as effects the cure requires; besides by this means a high fever may be occasioned. I judge it sufficient for the patient to refrain wholly from flesh, and all kinds of spirituous liquors, and to keep his room, without lying always in bed. When the skin is entirely peeled off, and the symptoms vanished, it is proper to give a gentle purge, suited to the age and strength of the patient. By this plain and manifestly natural method, this disease in *name* only, for it is little more, is easily cured without trouble or danger. Whereas on the contrary, if we add to the patient's evils, either by confining him continually in bed, or exhibit him abundance of cardiacs and other superfluous remedies, the disease is immediately increased, and he frequently falls a victim to the officiousness of the physician. But it should here be observed, that when epileptic *convulsions* or a COMA arise in this disease at the beginning of the eruption, which sometimes happen to children and young persons, it is highly proper to apply a large and strong blister to the neck, and immediately exhibit a paregoric of *syrup of white poppies*, which is to be repeated every evening during the illness; and he must be directed to make use of milk, boiled with thrice its quantity of water, for his ordinary drink, and to refrain from flesh.

A TREATISE ON THE GOUT.

(*Tractatus de Podagra et de Hydrope.*)

This is the best known of Sydenham's works and had been intended by him, along with the treatise on Dropsy, both of which he dedicates to Dr. Thomas Short, 1683, to be part of a general work on Chronic Diseases. Failing health, as he intimates in the dedication to Dr. Short, caused him to abandon the larger scheme. This is a matter of great regret because had he carried out his original intention we should have been in possession of a complete medical account by a master hand of the diseases recognized in his time. The account of gout is particularly interesting and vivid because Sydenham himself suffered from it through the latter thirty-five years of his lifetime, as has been mentioned in the general account of his life. From the letter to Dr. Short its crippling effect on his activities is manifest.

Sydenham includes in paragraph 70 a long quotation from Lucan's "Tragopodagra" (vv. 138-180, and 322-335) detailing the useless remedies which *Gout*, as one of the *dramatis personae*, addresses to pretenders of secret remedies. This has been omitted here as unnecessary.

The Treatise on the Dropsy which accompanied that on Gout is less important and much less interesting than the latter, and it is not given here. It must be remembered that in Sydenham's time Dropsy was regarded as a disease *per se*. Harvey, it is true, had published his important work on the Motion of the Heart in 1628, Lower and Christopher Wren were, even when Sydenham wrote, experimenting on the production of dropsy, and Malpighi had discovered the capillaries in 1660. Sydenham, however, pays no attention to these, and it must be remembered that valvular disease of the heart was first described by Morgagni in 1776, while Bright differentiated renal from cardiac dropsy only in 1827.

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THERE is no doubt but men will conclude either that the nature of the disease, which is my present subject, is in a manner incomprehensible, or that I, who have been afflicted with it for these thirty-four years past, am a person of very slender abilities, inasmuch as my observations concerning this distemper and the cure thereof fall short of answering their expectations. But notwithstanding this, I will faithfully deliver the remarks I have hitherto made concerning the difficulties and intricacies respectively occurring in the history of the disease and the method of cure, leaving the illustration thereof to time, the discoverer of the truth.

The *gout* generally attacks those aged persons who have spent most part of their lives in ease, voluptuousness, high living, and too free an use of wine and other spirituous liquors, and at length, by reason of the common inability to motion in old age, entirely left off those exercises which young persons commonly use. And, further, such as are liable to this disease have large heads, and are generally of a plethoric, moist, and lax habit of body, and withal of a strong and vigorous constitution, and possessed of the best *stamina vitæ*.

The *gout*, however, does not only seize the gross and corpulent, but sometimes, though less frequently, attacks lean and slender persons; neither does it always wait till old age comes, but sometimes attacks such as are in the prime of life, when they have received the seeds of it from *gouty* parents, or have otherwise occasioned it by an over-early use of *venery*, or the leaving off such exercises, as they formerly indulged to a great degree; and who besides have had a voracious appetite, and used spirituous liquors immoderately, and afterwards quitted them, of a sudden, for those of a thin and cooling kind.

When it seizes a person far advanced in years, for the first time, it never has such stated periods, nor proves so violent, as when it attacks a younger person, because (1) he generally perishes before the disease, accompanied with its natural symp-

PLATE III.



Thomas Sydenham : engraved by Golder after the painting by Sir Peter Lely, representing Sydenham in later life.

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toms, comes to its height; and (2) because the natural heat and vigour of the body being abated, it cannot be so constantly and powerfully thrown off upon the joints. But when it comes on sooner, though it may not yet fix on one part, nor prove so severe, but affect the patient occasionally, keeping no certain period, giving only a little pain for a few days, and coming on and going off without any order; yet it increases gradually, and goes on regularly, both with respect to the time of its coming and the continuance of the fit, and rages more violently in its progress than in its beginning.

I will first treat of the *regular gout*, and next of the *irregular* one; whether occasioned by an unadvised use of improper remedies or the weakness of the subject. The *regular gout* generally seizes in the following manner: it comes on a sudden towards the close of *January* or the beginning of *February*, giving scarce any sign of its approach, except that the patient has been afflicted for some weeks before with a bad digestion, crudities of the stomach, and much flatulency and heaviness, that gradually increase till the fit at length begins; which however is preceded for a few days by a numbness of the thighs and a sort of descent of flatulencies through the fleshy parts thereof, along with the convulsive motions; and the day preceding the fit the appetite is sharp but preternatural. The patient goes to bed, and sleeps quietly till about two in the morning, when he is awakened by a pain, which usually seizes the great toe, but sometimes the heel, the calf of the leg, or the ankle. The pain resembles that of a dislocated bone, and is attended with a sensation as if water just warm were poured upon the membranes of the part affected; and these symptoms are immediately succeeded by a chillness, shivering, and a slight fever. The chillness and shivering abate in proportion as the pain increases, which is mild in the beginning but grows gradually more violent every hour, and comes to its height towards evening, adapting itself to the numerous bones of the *tarsus* and *metatarsus*, the ligaments whereof it affects; sometimes resembling a tension or laceration of those ligaments, sometimes the gnawing of a dog, and sometimes a weight and constriction of the membranes of the parts affected, which become so exquisitely painful as not to endure the weight of the clothes nor the shaking of the room from a person's walking briskly

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therein. And hence the night is not only passed in pain, but likewise with a restless removal of the part affected from one place to another, and a continual change of its posture. Nor does the perpetual restlessness of the whole body, which always accompanies the fit, and especially in the beginning, fall short of the agitation and pain of the gouty limb. Hence numberless fruitless endeavours are used to ease the pain by continually changing the situation of the body and the part affected, which, notwithstanding, abates not till two or three in the morning, that is, till after twenty-four hours from the first approach of the fit, when the patient is suddenly relieved by means of a moderate digestion and some dissipation of the peccant matter, though he falsely judges the ease to proceed from the last position of the part affected. And being now in a breathing sweat he falls asleep, and upon waking finds the pain much abated, and the part affected to be then swollen; whereas, before, only a remarkable swelling of the veins thereof appeared, as is usual in all *gouty fits*.

The next day, and perhaps two or three days afterwards, if the gouty matter be copious, the part affected will be somewhat pained, and the pain increases towards evening and remits about break of day. In a few days it seizes the other foot in the same manner, and if the pain be violent in this, and that which was first seized be quite easy, the weakness thereof soon vanishes, and it becomes as strong and healthy as if it had never been indisposed; nevertheless, the *gout* affects the foot just seized as it did the former, both in respect of the vehemence and duration of the pain; and sometimes, when there is so copious a peccant matter in the beginning of the fit that one foot is unable to contain it, it affects both at the same time with equal violence; but it generally attacks the feet successively, as above remarked. When it has seized both feet, the following fits are irregular, both with respect to the time of seizure and their continuance, but the pain always increases in the evening and remits in the morning; and what we call a *fit of the gout*, which goes off sooner or later, according to the age of the patient, is made up of a number of these small fits. For when this disease lasts two or three months it is not to be esteemed one continued fit, but rather a series or assemblage of little fits, the last of which proves milder and shorter, till the peccant matter

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being at length quite expelled, the patient recovers; which, in strong constitutions, and such as seldom have the *gout*, often happens in fourteen days; and in the aged and those that have frequent returns of the disease, in two months; but in such as are more debilitated, either with age or the long duration of the distemper, it does not go off till summer advances, which drives it away.

During the first fourteen days the urine is high-coloured, and after separation lets fall a kind of red gravelly sediment, and not above a third part of the liquids taken in is voided by urine, and the body is generally costive during this time. The fit is accompanied throughout with loss of appetite, chillness of the whole body towards the evening, and a heaviness and uneasiness even of those parts that are not affected by the disease. When the fit is going off a violent itching seizes the foot, especially between the toes, whence the skin peels off, as if the patient had taken poison. The disease being over, the appetite and strength return sooner or later, according as the immediately preceding fit hath been more or less severe, and in consequence of this the following fit comes on in a shorter or longer space of time; for, if the last fit proved very violent, the next will not attack the patient till the same season of the year returns again.

In this manner does the *regular gout*, accompanied with its genuine and proper symptoms, appear; but when it is exasperated, either by wrong management or long continuance, so that the substance of the body is in a manner changed into supplies for the disease, and nature unable to expel it according to her usual way, the symptoms differ considerably from those just described. For, whereas the pain hitherto only affected the feet (which are the genuine seat of the morbid matter which, whenever it attacks any other part, clearly proves either that the course of the disease is obstructed, or the strength gradually impaired), it now seizes the hands, wrists, elbows, knees and other parts no less severely than it did the feet before. For sometimes it renders one or more of the fingers crooked, and motionless by degrees, and at length forms stony concretions in the ligaments of the joints which, destroying both the scarf-skin and the skin of the joints, stones not unlike chalk, or crabs' eyes, come in sight, and may be picked out with a needle.

Sometimes the morbid matter is thrown upon the elbows and occasions a whitish swelling almost as large as an egg, which becomes gradually inflamed and red. Sometimes it affects the thigh, which seems to sustain a great weight, yet without much pain; but thence gaining the knee, it attacks that part more violently, depriving it of motion, so as to nail it in a manner to the same place in bed. And when it is necessary to move the patient, either on account of the restlessness of the whole body, which is so frequent in this disease, or some other urgent cause, it ought to be done with great caution, as the least contrary motion or shock may perhaps give pain, which is only tolerable for this reason, because it soon goes off. And, indeed, this moving of the patient, which should be performed with such care and tenderness by the assistants, is no inconsiderable part of the evils which attend the *gout*; for the pain is not very violent the paroxysm throughout, in case the part affected be kept quiet.

As the *gout* formerly did not usually come on till the decline of winter and went off in two or three months, in the present case it continues all the year, excepting two or three of the warmest summer months. And it is further to be observed that as the *cardinal* or *general fit* continues longer now than it did heretofore, so likewise those *particular fits*, of which the *general one* is made up, rage a longer time; for whereas one of these did not last above a day or two before, it now, wherever it fixes, does not go off till the *fourteenth* day, especially if the feet or knees be affected thereby. To this may be added, that the patient on the first or second day after its coming, besides the pain, is afflicted with sickness and a total loss of appetite.

In the last place, before the disease came to such a height, the patient not only enjoyed longer intervals between the fits, but likewise had no pain in the limbs, and the other parts of the body, all the bodily functions being duly performed; whereas now his limbs, during the intermission of the disease, are so contracted and disabled, that though he can stand, and perhaps walk a little, yet it is very slowly and with great trouble and lameness, so that he scarce seems to move at all, and if he endeavours to walk beyond his strength, in order to recover the use of his feet, the stronger they grow, and the less liable they are to pain upon this account, so much more does the morbid

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matter (not wholly dissipated during this interval) threaten the bowels, to the endangering the patient, as it cannot be so freely thrown upon the feet, which, in this state of the disease, are never quite free from pain.

Moreover, the patient is likewise afflicted with several other symptoms; as a pain in the hæmorrhoidal veins, nauseous eructations, not unlike the taste of the aliment last taken in, corrupting in the stomach, happening always after eating anything of difficult digestion, or no more than is proper for a healthy person, together with a loss of appetite and a debility of the whole body for want of spirits, which render his life melancholy and uncomfortable. The urine, which was before high-coloured, especially in the fits, and voided in a small quantity, now resembles that which is evacuated in a *diabetes*¹ both in colour and quantity; and the back and other parts itch much towards bedtime.

And when the disease is become inveterate, after yawning, especially in the morning, the ligaments of the bones of the *metatarsus* are violently stretched, and seem to be squeezed with great force by a strong hand. And sometimes, though no yawning has preceded, when the patient is disposing himself to sleep, he feels a blow of a sudden, as if the *metatarsus* were breaking in pieces by a large stick, so that he wakes crying out with pain. The tendons of the muscles of the *tibiæ* are sometimes seized with so sharp and violent a convulsion, or cramp, that if the pain it occasions were to last only a short time, it could not be borne with patience.

But after many racking pains, the following paroxysms become less painful, as an earnest of the delivery which approaching death is about to give, nature being in part oppressed by the quantity of the morbid matter, and in part by old age, so as not to be able to propel it constantly and vigorously to

¹ Sydenham used the term "diabetes" in the same sense as Aretæus and other classic writers, viz., of any disease characterized by copious passage of urine and by emaciation. The presence of sugar in the urine, constituting the disease diabetes mellitus, is not mentioned by Sydenham, although the sweetness like "sugar or honey" was described by his contemporary Thomas Willis, in 1677 ("Pharmaceutics Rationalis," Sec. iv., Cap. iii.) and had long been known in the medicine of India.

the extremities; but, instead of the usual external pain, a certain sickness, a pain in the belly, a spontaneous lassitude, and sometimes a tendency to a *diarrhœa* succeed. When these symptoms are violent they ease the pain of the limbs, which returns upon their going off, and the paroxysms are much prolonged by this alternate succession of pain and sickness. For it is to be observed that when the disease has continued several years the pain diminishes gradually every fit, and the patient at length sinks rather from the sickness than the pain, which in these fits, though it be longer, is not near so violent as that which he usually suffered when his strength was little impaired. But nevertheless this violence of the disease was ordinarily recompensed by longer intervals between the fits, and the good state of health the patient enjoyed during the intermission. In effect, pain in this disease is the disagreeable remedy of nature, and the more violent it proves, the sooner the fit terminates and the longer and more perfect is the intermission, and so on the contrary.

But besides the above-mentioned symptoms, viz., the pain, lameness, inability to motion of the parts affected, the sickness, and other symptoms above enumerated, the *gout* breeds the *stone in the kidneys* in many subjects, either (1) because the patient is obliged to lie long on his back, or (2) because the secretory organs have ceased performing their proper functions, or else (3) because the *stone* is formed from a part of the same morbid matter, which however I do not pretend to determine. But from what cause soever this disease proceeds, the patient is sometimes at a loss to know whether the *stone* or the *gout* be most severe. And sometimes a suppression of urine, caused by the stone's sticking in the urinary passages, destroys him, without waiting for the slow advances of its concomitant the *gout*.

The patient is not only reduced to this helpless condition, but, to complete his misery, his mind during the fit sympathizes with his body, so that it is not easy to determine which of the two is most afflicted. For every paroxysm may be as justly denominated a fit of anger as a fit of the *gout*, the rational faculties being so enervated by the weakness of the body as to be disordered upon every trifling occasion, whence the patient becomes so troublesome to others as he is to himself. Moreover

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he is equally subject to the rest of the passions, as fear, anxiety and the like, which also torment him till the declension of the disease, when the mind is restored to health along with the body, having recovered its former tranquillity.

To conclude, the *viscera* in time are so much injured, from the stagnation of the morbid matter therein, that the organs of secretion no longer perform their functions, whence the blood, overcharged with vitiated humours, stagnates, and the *gouty matter* ceases to be thrown upon the extremities as formerly, so that at length death frees him from his misery.

But what is a consolation to me, and may be so to other *gouty* persons of small fortunes and slender abilities, is that kings, princes, generals, admirals, philosophers and several other great men have thus lived and died. In short, it may, in a more especial manner, be affirmed of this disease that it destroys more rich than poor persons, and more wise men than fools, which seems to demonstrate the justice and strict impartiality of Providence, who abundantly supplies those that want some of the conveniences of life with other advantages, and tempers its profusion to others with equal mixture of evil; so that it appears to me universally and absolutely decreed that no man shall enjoy unmixed happiness or misery, but experience both; and this mixture of good and evil, so adapted to our weakness and perishable condition, is perhaps admirably suited to the present state.

The *gout* seldom attacks women, and then only the aged or such as are of a masculine habit of body; for lean and emaciated women, who in their youth or riper age are seized with symptoms not unlike the *gout*, receive them from *hysteric* disorders or some preceding *rheumatism*, the morbid matter whereof was not sufficiently carried off in the beginning. Nor have I hitherto found children, or very young persons, affected with the *true gout*. Yet I have known some who have felt some slight touches of it before they came to that age, but they were such as were begot by *gouty parents*. And let this suffice for the history of this disease.

Upon a thorough attention to the various symptoms of this disease I judge it to proceed from a *weakened concoction* of the solids and fluids; for such as are subject to it, being either worn out by old age or having hastened this period of life by

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their debaucheries, labour under a universal paucity of animal spirits, occasioned by the immoderate use of the vigorous functions in the heat of youth. For instance, by a too early or excessive use of venery, by the vast and continual pains they take to gratify their passions and the like; whereto must be added the quitting of such bodily exercises of a sudden as they had formerly used (whether through age or idleness) which served to invigorate the blood and strengthen the tone of the solids; whence the strength decays, and the concoctions are no longer duly performed, but on the contrary the excrementitious part of the juices, which was formerly expelled by means of such exercises, lies concealed in the vessels to feed the disease. And sometimes the disease hath been increased by a long continued application to some serious study, whereby the finer and more volatile spirits are called off from their proper function of assisting the concoctions.

Again, such as are subject to the *gout*, besides having a voracious appetite in general, chiefly covet all kind of aliment that is hard of digestion, which, when they have ate as plentifully as they ordinarily did when they used exercise, they cannot digest. But this way of living does not occasion the *gout* so often as the excessive use of wine, which destroys the ferments designed for various concoctions, hurts the concoctions themselves, and overcomes and dissipates the natural spirits, by reason of the abundance of adventitious vapours. Now the spirits, which are the instruments of concoction, being weakened, and the blood overburthened with juices at one and the same time, all the concoctions must needs be depraved, whilst all the *viscera* are so oppressed; whence the spirits that have long been in a declining state are now quite exhausted. For if this disease proceeded only from a weakness of the spirits it would equally affect children, women, and persons debilitated by a tedious illness; whereas the strongest and most robust constitutions are chiefly subject to it, but not before abundance of humours are collected in the body through the decay and waste of the natural heat and spirits, which in conjunction destroy the vitiated concoctions.

Again, as each of the causes we have enumerated promote indigestion, so most of them contribute in some measure to introduce a laxity of the habit and muscles of the body, which

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makes way for the reception of crude and indigested juices, as often as they are thrown upon the external parts. For when by lying long in the blood they are increased in bulk, and have gained an ill quality, they at length acquire a putrefying heat, and, nature being no longer able to subdue them, become a *species*, and fall upon the joints, and by their heat and acrimony occasion exquisite pain in the ligaments and membranes that cover the bones, which being weakened and relaxed, either by age or luxury and intemperance, easily admit them. But this translation of the humours occasioning the *gout* and forming a *gouty* fit happens sooner or later, according as these humours are occasionally put in motion.

I proceed now to the cure, in treating of which I shall first take notice of such things as are to be omitted. Now, in this disease, if regard be had to the humours and the indigestion occasioning them, it should seem at first view that the curative indications should principally tend (1) to evacuate humours already generated, and (2) to strengthen the concoction, or digestive powers, so as to prevent the accumulation of other humours; these being the usual indications to be answered in most other humoral diseases. But nevertheless in the *gout*, nature seems to have the prerogative to expel the peccant matter according to its own method, and throw it off upon the joints, there to be carried off by insensible perspiration. Now there are only three ways proposed of expelling the morbid matter of the *gout*, namely, (1) *bleeding*, (2) *purging*, and (3) *sweating*; but none of these will ever answer the end.

(1) Though *bleeding* seems to bid fair for evacuating the humours immediately to be translated, as well as those already fixed in the joints, yet it manifestly clashes with that indication which the antecedent cause, *indigestion*, arising from a depravity or paucity of the spirits, demands, which *bleeding* further weakens and diminishes; and for this reason it is not to be used either by way of preventing an approaching, or easing a present fit, especially in the aged, for though the blood that is taken away generally resembles *pleuritic* or *rheumatic* blood, yet *bleeding* is found to do as much mischief in this disease as it does good in those. And *bleeding* in the interval, though long after the paroxysm, is apt to occasion a fresh fit, by the agitation of the blood and juices, which may continue longer

and be attended with more violent symptoms than the former, the strength of the blood being impaired thereby, by means whereof the morbid matter should have been powerfully and constantly expelled. This inconvenience always happens from *bleeding* in the beginning of the fit; and if it be used immediately after the fit there is great danger (on account of the present weakness of the blood, and its not having recovered its former strength, diminished by the disease) of debilitating nature so much by the unseasonable use thereof as to make way for a *dropsy*. Nevertheless, if the patient be young and overheated by hard drinking, a vein may be opened in the beginning of the fit; but if the bleeding be always used in the succeeding paroxysms, it will soon render the *gout* inveterate even in youth, and cause it to spread more universally in a few years than it otherwise would have done in many.

(2) With respect to *vomiting* and *purging*, it should be noted that, as it is a fixed law of nature, and interwoven with the essence of this disease, that the morbid matter thereof ought always to be translated to the joints, *emetics* or *cathartics* will only invite the *gouty* matter back into the blood, which was thrown off by nature upon the extremities; and hence what ought to be thrown upon the joints hurries perhaps to some of the *viscera*, and so endangers the life of the patient, who was quite safe before. And this has often been observed to prove fatal to those who have ordinarily had recourse to *purgatives* by way of prevention, or, which is worse, to ease the pain in the fit; for when nature is prevented from pursuing her usual, safest, and best method of translating the morbid matter to the joints, and the humours are forced inwards upon the bowels, then instead of pain in the joints, which is either slight or none at all, the patient is almost destroyed by sickness of stomach, gripings, faintings, and a numerous train of irregular symptoms.

For my own part, I am abundantly convinced, from much experience, that *purging*, either with mild or strong *cathartics* of that kind which are given to purge the joints, proves very prejudicial, whether it be used in the fit to lessen the morbid matter, or in its declension to carry off the remainder, or in a perfect intermission, or healthy state to prevent an approaching fit. For I have learned at my own peril, as well as that of others, that purgatives exhibited at any of these times have,

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instead of doing service, hastened the mischief they were intended to prevent. (1) *Purging*, therefore, during the fit, by disturbing nature when she is separating the *gouty* matter and throwing it off upon the joints, does sometimes eminently disturb the spirits, which renders the fit more violent, and likewise much endangers the life of the patient. (2) *Purgatives* administered at the end of a fit, instead of expelling the remains of the disease occasion a fresh fit as severe as the former; and thus the patient, being deceived by fruitless hopes, brings those evils upon himself which he had escaped if the humours had not been exasperated afresh. And this inconvenience I myself often experienced after having had recourse to medicine to expel what I esteemed the remains of the distemper. (3) As to *purging* at certain times in the intervals by way of prevention, though it must be owned that there is not so much danger of occasioning a fresh fit as in the instance just mentioned, the patient in that case not being perfectly recovered; yet even at this time it is productive of a fit, for the reasons above specified; and though perhaps it may not come on immediately, the disease nevertheless will not go off entirely by taking any purge constantly at proper intervals. For I have known some *gouty* persons who, to recover their health, not only purged spring and autumn but monthly, and even weekly, and yet none of them escaped the *gout*, which afflicted them more severely afterwards, and was accompanied with more violent symptoms than if they had totally forbore medicine. For though such *purging* might carry off a part of the *gouty* matter, yet as it does not at all contribute to strengthen concoction, but rather weakens it, and injures nature afresh, it only strikes at one cause, and is by no means adequate to the cure of the distemper.

To these observations must be added, that the same paucity of spirits which hurts the concoctions in *gouty* subjects renders their spirits weak and languid, so that they are soon disturbed by any cause which considerably hurries either the body or mind, and consequently are very volatile and dissipable, as they frequently are in *hysteric* and *hypochondriac* patients. And from this tendency of the spirits to irregular motions, it happens that the *gout* usually follows the slightest evacuation. For the tone of the parts being destroyed, which the firmness of the spirits, so long as they continue strong, preserves unrelaxed and

healthy, the peccant matter moves without interruption, and from this mischief done to the body a fit arises in a short time.

But notwithstanding this method is so very pernicious, yet there have been empirics who have acquired a great character by cunningly concealing the cathartic they used in this case. For it must be noted that whilst the medicine operates the patient feels no pain at all, or but a slight one; and if a course of *purgatives* can be continued for some days, without the intervention of a recent fit, the present fit will soon go off. But the patient will suffer greatly afterwards by the sudden tumult occasioned by this agitation of the humours.

(3) Finally, the carrying off the peccant matter by *sweat* is manifestly prejudicial, though in a less degree than the above-mentioned evacuations; for though it does not repel the morbid matter to the *viscera*, but contrariwise propels it into the habit, it is notwithstanding detrimental for these reasons: (1) Because, during the interval of the fit, it forces the humours, which are yet crude and not fitted for a due separation, upon the limbs, and thus occasions a fit before its time and in opposition to nature. (2) The promoting sweat in the fit throws and fixes the *gouty* matter too powerfully upon the part affected, at the same time occasioning intolerable pain; and if there be a greater quantity thereof than can be received by the part affected it immediately throws it upon some other parts, and thus raises a violent ebullition of the blood and other juices, and if the body abounds considerably with a serous matter generative of the *gout* an *apoplexy* is hereby endangered.

Hence therefore, it is a very dangerous practice, both in this and all other diseases wherein a sweat is raised by art to evacuate the morbid matter and it does not flow spontaneously, to force it out too violently and beyond that degree of concoction which the humours to be carried off have spontaneously acquired. The excellent aphorism of *Hippocrates*, intimating that *concocted and not crude matters are to be evacuated*, relates to *sweating* as well as *purgings*, as appears manifestly from that sweat which ordinarily terminates the paroxysms of intermit- tents; which, provided it be moderate and proportioned to the quantity of febrile matter concocted by the preceding fit, relieves the patient considerably; but if it be promoted beyond the limits prescribed by nature, by keeping the patient constantly

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in bed, a continued fever thence arises, and instead of extinguishing the former heat a new one is kindled. So in the *gout* the gentle breathing sweat that generally comes on spontaneously in the morning after each of the small fits, of which, as I have before observed, the cardinal fit is compounded, eases the pain and restlessness which tormented the patient so much during the night; but contrariwise, if this gentle moisture, which is naturally of short duration, be violently forced and continued longer than the quantity of the morbid matter concocted by the preceding fit requires, the disease is thereby increased. In this, therefore, and all other diseases that I have met with, excepting only the *plague*, it is nature's province, more than the physician's, to excite sweat, as we cannot possibly learn how much matter is already prepared for such a separation, nor consequently what method is to be taken to promote *sweat*.

Since then it evidently appears from what has been delivered that it is both a fruitless and a pernicious attempt to endeavour to cure the *gout* by evacuating medicines, we are next to inquire what other purpose the curative indications are to be directed to answer. And from a thorough attention to all the symptoms above enumerated we learn that regard must be had to two causes principally in the cure of this disease. (1) The *antecedent* or *primary cause*, or the indigestion of the humours, proceeding from a defect of the natural heat and spirits; (2) the *containing* or *immediate cause*, or the heat and effervescence of these humours after the putrefaction and sharpness they have acquired by continuing too long in the body, occasioned by the indigestion above mentioned. Now these causes differ so much from one another that the medicines which do service in the one prove pernicious in the other and hence it is that this disease is so difficult of cure. For at the same time that we endeavour to cure the indigestion by warm medicines we run the risque on the other hand of increasing the heat of the humours; and contrariwise, whilst we strive to mitigate the heat and acrimony of the humours by a cooling regimen or medicines we bring on indigestion, the natural heat being already impaired. But here, by the *containing cause*, I do not only mean that which is actually deposited in the joints and forms the present fit, but that also which still lies concealed in the blood and is

not yet prepared for separation. For all the morbid matter is seldom so entirely expelled by the fit, how lasting and severe soever it be, as to leave no remains of it in the body after the fit is gone off, so that of course regard is to be had to this cause both in the fit and during the intervals. But as the expulsion of the *containing cause* is entirely the business of nature, and to be performed according to her own method, and since nothing in the meantime can be done to cool the hot and sharp humours, without injuring the digestive powers, unless it be by avoiding a hot regimen and medicines, which inflame the humours; so doubtless the chief curative intention is, after the indigestion is removed, to strengthen the digestive powers, which I shall now treat of; but in such manner, however, that I may, in the course of this dissertation, as occasion offers, likewise mention those remedies which tend to mitigate the heat of the humours and blunt their acrimony.

Whatever remedies, therefore, assist nature to perform her functions duly, either (1) by strengthening the stomach so that the aliment may be well digested, or (2) the blood that it may sufficiently assimilate the chill received into the mass, or (3) the solids, so as to enable them the better to change the juices designed for their nutrition and growth into their proper substance, and (4) lastly, whatever preserves the secretory vessels and the emunctories in such a state that the excrementitious parts of the whole system may be carried off in due time and order. These, and all medicines of the same kind, contribute towards answering this intention, and are properly entitled *digestives*, whether they be of the medicinal or dietetic kind, exercise, or any other of those things, which are called the six *non-naturals*.

Such medicines in general are those which are moderately heating, bitter, or of a mild pungent taste, inasmuch as they agree well with the stomach, purify the blood, and strengthen the other parts. For instance, the roots of *angelica* and *elecampane*, the leaves of *wormwood*, the *lesser centory*, *germander*, *ground-pine* and the like, to which may be added such as are called *antiscorbutics*, as the roots of *horse-radish*, the leaves of *garden scurvy-grass*, *water-cresses* and the like. But these acrid and pungent herbs, how agreeable and beneficial soever they may be to the stomach, yet, as they agitate the morbid matter

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which has long been generated and increase the heat, are to be used more sparingly than those which by their mild heat and bitterness both strengthen the stomach and mend the blood.

And, in my opinion, a skilful mixture of some kinds of them answers the end of digesting the humours better than any single simple of this class. For though whenever we have occasion for the specific virtue of any medicine, it be a true axiom, that *the more simple it is, the better it is for the purpose*, yet when a cure is intended to be made by answering a particular indication every ingredient contributes something towards curing the disease, and in this case the more simples the medicine contains the more powerfully it will operate. For this reason various forms of medicines may be elegantly compounded of the ingredients above enumerated, and the rest of the like kind. I give the preference to electuary made after the manner of *Venice treacle*, because the fermentation of the simples together improves their virtues and produces a *third substance* which possesses greater virtues in the mixture than any single ingredient in the same quantity. But I freely leave the choice of such ingredients, and the forms in which they are to be given, to the judicious physician; for I never thought myself obliged to write what they term receipts, but rather to note the true curative indications, the non-observation of which caution has given empirics a handle to cry themselves up for the best physicians, as I have elsewhere observed. However, for the benefit of young physicians, I will communicate the medicine I generally use, which is compounded in the following manner:—

Take of the roots of angelica, sweet flag, master-wort, elecampane, the leaves of wormwood, the lesser centory, white hore-hound, germander, ground-pine, scordium, common calamint, feverfew, wild saxifrage, St. John's wort, golden rod, thyme, mint, sage, rue, holy thistle, penny-royal, southernwood, the flowers of camomile, tansey, lily of the valley, English saffron, the seeds of treacle-mustard, garden scurvy-grass, carraway and juniper berries, of each a sufficient quantity. Let the herbs, flowers, and roots be gathered when they are in their utmost perfection; dry them in paper bags till they are reducible into fine powder. To six ounces of each

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well mixed together, add enough of clarified honey and canary to make the whole into an electuary, of which let the patient take two drams morning and night.

Or for want of this, let the following be used :—

Take of the conserve of garden scurvy-grass an ounce and half; Roman wormwood and orange peel, of each an ounce; candied angelica and nutmeg, of each half an ounce; Venice treacle, three drams; compound powder of wake-robin, two drams; and with a sufficient quantity of the syrup of oranges, mix them up into an electuary. Let two drams of it be taken twice a day, with five or six spoonfuls of the following distilled water after every dose.

Take of the roots of horse-radish, sliced, three ounces; garden scurvy-grass, twelve handfuls; water-cresses, brook-lime, sage and mint, of each four handfuls; the peel of six oranges; two nutmegs bruised; Brunswick beer, or mum, twelve pints; draw off only six pints by distillation.

Of all the medicines commonly known *Venice treacle* is the best for strengthening the digestive faculties; but as it contains many ingredients that overheat, and withal a large quantity of *opium*, an electuary like that above described may be more commodiously composed of the principal warming and strengthening plants. But care must be had to make choice of such simples as are most agreeable to the patient's palate, because it must be continued a long time, namely, for the most part of his life. Of all simples the *Peruvian bark* is the best, for a few grains of it taken morning and evening strengthen and enliven the blood.

And in reality these, and such-like medicines which strengthen and enrich the blood (provided their heat be not owing to vinous spirits, for reasons hereafter to be given), do most service in this and most other *chronic diseases*; inasmuch as every disease of this kind is in my opinion to be referred to the same general cause, namely, *the indigestion of the humours*.

But as nothing can put this matter in a clearer light than the giving a view of the difference there is between *acute* and

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chronic diseases, it is hoped the reader will not be displeased if I make a short digression from the present subject. As therefore those diseases are generally deemed *acute* which soon prove fatal, or are speedily brought to concoction, so those are entitled *chronic* distempers which either require a long time to come to concoction or never come to concoction at all. And this appears manifest, both from the nature of the thing and the terms employed to express it; but the cause of the dissimilitude between these two kinds of diseases being less obvious and not so easily discoverable, I conceive it will be worth while to spend some time in a research of this nature, since a clear and distinct notion of these particulars may greatly contribute towards discovering the genuine indications suited to the cure of these diseases.

Now whether the inmost bowels of the earth (if the expression be allowable) undergo various alterations so as to infect the air by the vapours thence arising, which seems very probable to me; or whether the whole atmosphere be infected by means of an alteration, resulting from a peculiar conjunction of any of the planets; certain it is that the air sometimes abounds with such particles as injure the human body, as at another time it becomes impregnated with such particles as prove pernicious to some species of brutes. During this state of the air, as often as we receive into the blood by breathing the poisonous corpuscles which are prejudicial to the body, and contract such epidemic diseases as such tainted air is apt to produce, nature raises a fever, which is the ordinary instrument it employs to free the blood from any noxious matter therein contained. And these diseases are commonly esteemed *epidemic diseases*, and are therefore *acute* and short, because their motion is so quick and violent. But besides these distempers produced by an external cause, there are others not less *acute*, which proceed from some peculiar inflammation of the blood, and which do not arise from any general cause depending on the air, but from some peculiar irregularity or indisposition of particular persons. This kind of fever, which happens in most years, I call *intercurrent* and *sporadic*.

But *chronic* diseases are of a very different nature from these, for though a certain unwholesome air may greatly contribute to their production, yet they do not so immediately proceed from

the air, but generally from the indigestion of the humours, the common origin of all these diseases. For when the *stamina vitæ* are much debilitated, and in a manner worn out either by age, or by remarkable and continued irregularities in the use of of the six *non-naturals*,¹ especially with relation to food and drink; or if the secretory vessels be so far weakened as to be no longer able to perform their appointed functions of cleaning the blood and carrying off its superfluities; in all these cases a greater quantity of humours being collected in the body than can be digested by the strength of nature; these, by their long continuance in the vessels, undergo various fermentations and putrefactions, and at length appear in a species, occasioning different diseases, according as they are variously vitiated and depraved. And as these vitiated juices differ from one another, so they fall upon the particular part that is best fitted to receive them, and there they gradually manifest those numerous symptoms, which ordinarily proceed, partly from the nature of such juices, and partly from the irregular motion excited in the parts affected, both which causes, in conjunction, constitute that irregularity of nature which is characterized with the name of some disease.

Now that most *chronic diseases* chiefly proceed from such an inability of nature to concoct the humours, will manifestly appear, if we reflect that aged persons, whose digestive faculties are impaired, and their spirits, which are the instruments thereof, are wasted by the repeated functions of a long life, are more subject to these diseases than young persons, whose vital warmth is greater, and dissipates those foul humours which are amassed in the body, and whose secretory vessels are possessed of such a constant natural heat, that they may on no account fail of performing their functions of purifying the blood, unless they are burthened, and in a manner obstructed by an overfulness of humours. And further, that such an indigestion of the humours is the cause of most *chronic diseases*, is clear from hence, that winter is much more apt to generate them than summer; notwithstanding that some do not actually show themselves till the decline of winter, though the collection of humours whereon they

¹ The six non-naturals of old writers were : (1) change of air, (2) exercise and baths, (3) food and drink, (4) sleep, (5) coitus, (6) affections of the mind.

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depend increases the winter throughout, becoming greater by the coldness of the season, and debilitating nature so as to render her less able to perform the functions of the animal economy.

Hence it is that such as enjoy a good state of health in summer, do notwithstanding rarely escape those diseases in winter to which they are most subject; as, for instance, the *gout*, *asthma*, *cough*, &c. And hence likewise we learn why travelling into *southern* countries is so effectual to conquer those diseases, the cure whereof is fruitlessly attempted in a colder climate. The truth of what has been delivered concerning the general cause of *chronic* diseases will be further confirmed by the remarkable and almost incredible relief obtained by riding on horseback in most *chronic* diseases, but especially in *consumption*. For this kind of exercise strengthens all the digestive powers, whilst it revives the natural heat by a continual motion of the body, and enables the secretory vessels to perform their function of purifying the blood in a proper manner, whence an amendment of the greatly debilitated digestions must needs follow and, of course, a healthy state.

From the reasons therefore just alleged, it sufficiently appears that such *warm herbs* do great service where there is no manifest contra-indication, not only in the *gout*, but in most *chronic* diseases, inasmuch as they procure a warmth like that of summer even in the midst of winter; though if we accustom ourselves to use them in summer they will more effectually prevent such diseases as are ordinarily occasioned by the contrary season. And in reality, if we defer or neglect taking them till the approach of winter, at which time a considerable quantity of humours is amassed, it is to be apprehended it may then be too late to have recourse to this refuge.

But though (as I have already shown at large) the *gout* is of so peculiar a nature as to be rendered worse by *cathartics*, yet in most other *chronic* diseases bleeding is to be repeated, as there is occasion, and purging to be ordered before using the *strengthening* and *stomachic* remedies here commended; but when the patient has begun with them, they must be continued without any intermediate evacuations; for it is always to be remembered that whenever the cure of any disease is attempted by means of strengthening remedies, all kinds of evacuations prove highly pernicious. Lastly, I do not assert that the

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stomachic medicines just enumerated are the most excellent of the kind, but I maintain that whoever happens to discover the most effectual remedy to answer this intention will be capable of doing much more service in *chronic* diseases than he can well imagine.

But amongst the remarks I proceed to communicate on the cure of the *gout*, this is primarily and chiefly to be attended to, namely, that all *stomachic* or *digestive* remedies, whether they consist of a course of medicines, a regimen, or exercise, are not to be entered upon in a heedless manner, but to be persisted in daily with great exactness. For since the cause in this and most other *chronic* distempers is become habitual and in a manner changed into a second nature, it cannot reasonably be imagined that the cure can be accomplished by means of some slight and momentaneous change made in the blood and juices by any kind of medicine or regimen, but the whole constitution is to be altered, and the body to be in a manner framed anew. For it is otherwise here than in some acute diseases where a person in full strength and good health is suddenly seized with a fever; whereas in the *gout*, a person by indulging himself in high feeding, hard drinking, neglecting his usual exercise for several years running, and wearing out his constitution by sloth and idleness, or by hard study, and close thinking, and other errors of life, does at length, in a manner purposely, injure the various ferments of the body, and oppress the animal spirits, which are the principal instruments of digestion, whence the vitiated juices, amassed in the habit, break out as soon as they come to their height, and do much mischief, relaxing the fleshy parts, and weakening the joints, so that they readily receive the humours thrown upon them. And in this manner a different constitution is formed by degrees, the original natural one being quite destroyed. And those fits which engross the attention of indiscreet and unthinking persons are no more in effect than the succession and order of symptoms, resulting from that method which nature ordinarily employs to expel the morbid matter. Hence, therefore, it is a fruitless labour to attempt the cure of this disease by using any medicine or regimen occasionally; for since this habit is chiefly founded on, and consists in a weakness of all the digestions, and a relaxation of all the parts, both these disorders must be remedied, and the strength of the digestive

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powers, as well as the tone of the parts restored and recovered by degrees to the former healthy state of the body. But though it may seem impossible to compass this end effectually, not only because any particular habit cannot easily be changed into a contrary one, but also, because old age, which ordinarily accompanies this disease, greatly obstructs this design; yet the cure is to be attempted as far as the strength and age of the patient will permit, who will have the *gout* more or less severely the farther he declines from or the nearer he approaches this state.

Furthermore it is to be observed that digestive remedies, either of the medicinal or dietetic kind, are to be used chiefly in the intervals of the *gout*, and at as great a distance as may be from the subsequent fit. For age obstructs the cure so much that the strengthening the digestive powers, the recovering the debilitated ferments of the body, and restoring the blood and *viscera* to their due healthy state, cannot be speedily accomplished, and requires a continued use of medicine.

But though these and the like remedies may do service, yet they are not able alone to answer this intention of strengthening, but need the joint assistance of such things as do not properly belong to medicine, it being an error to imagine that this, or any other *chronic* disease, can be cured by medicine only. (1) Therefore moderation in eating and drinking is to be observed, so as on the one hand to avoid taking in more aliment than the stomach can conveniently digest, and of course increasing the disease thereby; and on the other hand, defrauding the parts, by immoderate abstinence, of the degree of nourishment requisite to keep up the strength, which will weaken them still more; either of these extremes being equally prejudicial, as I have often experienced both in myself and others. (2) As to the quality of the food, though whatever is easy of digestion, singly considered, deserves the preference, yet regard must be had to the palate and appetite, because it is frequently found that what the stomach earnestly covets, though of difficult digestion, does nevertheless digest better than what is esteemed of easier digestion if the stomach nauseates it; but for this reason indigestible aliment should be used more sparingly. (3) I am of opinion that the patient ought to eat only of one dish at a meal, because feeding on different sorts of flesh injures the stomach more than eating an equal quantity of any one kind; but excepting flesh

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he may eat other things at pleasure, provided they be not sour, salt or spiced; because, though such food does not hurt digestion, it nevertheless does mischief by putting the morbid matter in motion.

As to the times of eating, only dining is necessary; for as the night should seem peculiarly designed to digest the humours, it would be wrong to waste that time in digesting the aliment. For this reason *gouty* persons should forbear suppers, but they may drink a large draught of *small beer*, as being generally subject to *the stone in the kidneys*, the growth whereof is considerably obstructed by drinking such a liquor at this time, as it cools and cleanses the kidneys.

A *milk diet*, or the drinking milk, either as it comes from the cow or boiled, without adding anything to it, except perhaps a piece of bread, once a day hath been much used these twenty years past, and hath done more service in abundance of *gouty* subjects, whilst they persisted in it exactly, than all other kinds of remedies. But upon quitting it and returning to the ordinary way of living of healthy persons, though they used the mildest and slenderest diet, the *gout* immediately returned with more violence than ever; for as this regimen weakens the constitution, the patient cannot so well struggle with the distemper, whence of course it proves more dangerous and lasting. Whoever, therefore, intends to pursue this regimen, ought beforehand to consider maturely whether he be able to persevere in it for life, which perhaps he will find too much for him, though he should be a person of great resolution. For I knew a nobleman who, after living a whole year on milk only with much pleasure, during which time he had one or more motions every day, was constrained to leave it off, because he grew costive on a sudden, the temper of his body altered, and his stomach at length nauseated *milk*, though he had still a liking to it. Again, it is observable that some *hypochondriac* persons of a gross habit of body, or those who have been long used to drink spiritous liquors freely, cannot bear milk. And further, the short and fleeting benefit which those who can bear milk receive from this regimen, is not only derivable from its exceeding simplicity, whence I doubt not but water-gruel may have the same effect, provided the stomach will bear it, but from its rendering the blood softer and smoother, by blunting the sharp particles con-

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tained in the mass. And moreover, which I esteem the principal thing, *milk* being an aliment that is absolutely unfit for grown persons, represses that turgescence or plenitude of the humours which occasions the *gout*; and for this reason the few with whom it agrees escape this disease, so long as they live upon *milk* only, but no longer. For as it runs directly counter to the original cause of the *gout*, which is the debility of the digestions and ferments, it does much more mischief in this respect than benefit in the other. And for want of attending sufficiently to this particular some inconsiderate persons have fallen into gross and manifestly fatal errors; having, by attempting to conquer the containing cause of the disease, namely, the heat and acrimony of the humours, destroyed the digestions and all the natural functions.

As to liquors, those are best, in my opinion, which are weaker than wine and not so weak as water, such as our *London* small-beer, hopped or unhopped, extremes on either hand being pernicious. For, as to wine, though the common proverb intimates that whether a person does or does not drink wine he will have the *gout*, yet it is certain, and confirmed by the experience of abundance of *gouty* patients, that wine is in fact detrimental. For though it may be supposed to do service by strengthening the digestive powers, the weakness whereof I have long looked upon as the antecedent or primary cause of the *gout*; yet, with respect to the containing cause thereof, it must be deemed wholly pernicious, because it inflames and agitates the humours which feed the disease. Neither do we grant that *wine* used by way of common drink helps digestion, but rather assert that it destroys it, unless in such as have drunk it for a long time. For though wine may, in passing through the vessels, communicate some heat to the parts, yet it certainly depraves the ferments of the body and wastes the natural spirits; and hence, I conceive, it is that great drinkers generally die of the *gout*, *palsy*, *dropsy* and other cold diseases. Furthermore, the continued and immoderate use of wine relaxes and enervates the body, rendering it like the bodies of women; whereas moderately heating liquors strengthen the tone of the parts; whence such as have always drunk small liquors are rarely afflicted with the *gout*. It must further be noted that those are chiefly subject to this disease who, though they have naturally a weak diges-

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tion, do, notwithstanding, receive too much nourishment from a certain richness of the blood, and grow more bulky by a kind of indigested matter, instead of a solid, wholesome substance. And the use of wine adds to this richness of the blood, and so not only amasses a new collection of matter, but also actually occasions the disease by stirring up the cause of it, which had long lain concealed and inactive. Again, as the blood of *gouty* subjects nearly resembles that which is taken away in a *pleurisy* and other inflammatory diseases, it is absurd to inflame it more with spirituous liquors. And it is as dangerous, on the contrary, to have recourse of overcooling liquors, which, by utterly destroying both the digestions and natural heat, do more mischief, not occasioning pain, as wine doth, but death itself, as experience shows in those persons who have used themselves to drink wine freely from their youth upwards to old age and quitted it of a sudden for water or small liquors have soon destroyed themselves thereby.

Gouty persons should therefore make it a rule in this particular, to drink such liquors as will not inebriate, if drunk in a large quantity, or injure the stomach by their chillness. Of this kind, as I before hinted, is our *small beer*, and in other countries a similar liquor may be made by diluting wine well with water. As to *water* alone, I esteem it crude and pernicious, and have found it so to my cost; but young persons may drink it with safety, and it is at this day the common drink of the greatest part of mankind, who are happier in their poverty than we are with all our luxury and abundance. This is confirmed by the great multitude of diseases with which we are afflicted upon this account, as the *stone*, *gout*, *apoplexy*, *palsy*, &c., besides the injury done to the mind, in being drove from its natural rectitude, by the disturbance which the fiery spirits of such liquors, together with the animal spirits which assist the thinking powers occasion, by volatilizing the mind too much, and suggesting vain and idle notions, instead of solid and weighty reasonings, and thus at length rendering us drolls and buffoons instead of wise men; between which the difference is almost as great as between a substance and a shadow. But enough of this.

But though a person who has the *gout* mildly and only at intervals need only use *small-beer*, or *wine* diluted with water,

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this degree of the disease not requiring a stricter regimen; yet when the whole substance of the body is in a manner degenerated into the *gout* it cannot be conquered without a total abstinence from all kinds of fermented liquors, how small and smooth soever they be; inasmuch as all liquors of this kind contain a pungent spirit, with some degree of acrimony; and what is worse, being possessed of a ferment, they dispose the humours to a perpetual fermentation, in the same manner as yeast added to malt liquors communicates its fermenting quality to the whole liquor. For this reason a *diet-drink* is to be ordered for common drink, to be made of those ingredients which are commonly known and used for this purpose; but it must not be too strong, because in that case it will inflame the humours as much as wine; neither, on the contrary, must it be so small as to injure the natural functions by overcooling. And this kind of drink, provided it be made of such ingredients as the patient most likes, though it may occasion some loathing for the first week or fortnight, does nevertheless prove as agreeable afterwards as any other liquors he has been used to drink. It will likewise quicken the appetite and render it more natural than it used to be with fermented liquors, and will be attended with this further convenience, that whoever uses it for his common drink may indulge more freely in other kinds of diet than when he drank wine or beer; for the errors in point of diet, which it is hardly possible to avoid entirely, will be in some measure corrected and amended thereby. But the principal benefit derivable from it is its being preventive of the *stone*, which is the general attendant of the *gout*, as all sharp and attenuating liquors both contribute to breed the stone and occasion a fit thereof. I prefer the following decoction for its agreeable colour and taste:—

Take of sarsaparilla, six ounces; sassafras wood, china root and the shavings of hartshorn, each two ounces; liquorice-root, an ounce; boil them together in two gallons of spring-water for half an hour; afterwards infuse them upon hot ashes close covered for twelve hours; then boil them till a third part of the liquor is exhaled; and as soon as it be taken off the fire, infuse therein half an ounce of anise seeds for two hours; lastly strain it off, and let it rest till it becomes clear, and put it into bottles for use.

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It is properest to begin with this decoction immediately after the fit of the *gout* is gone off, and it must be continued, both in the fit and the intervals, during the remainder of life. For it is not sufficient at a time when the disease actually rages to study for new medicines, as nature, whilst the humours are in such commotion and disturbance, cannot well bear the exchange of fermented liquors, of an active and spirituous quality, for such as are small and without spirit. At the same time the above-mentioned electuary must be taken every day, both in the fit and in the intervals, for the warmth of this will in some measure correct the smallness of the diet-drink, as it will communicate a due degree of heat to the blood and *viscera* without that agitation which is generally occasioned by the heat of fermented liquors.

If it be objected that a total abstinence from wine and other fermented liquors would render life in a manner insupportable, I answer, it must be considered whether it be not much worse to be tortured daily by the pain accompanying an inveterate *gout* (for when it is gentle there is no need of so strict a regimen) than to be confined to this decoction, which, if the patient continues, he may indulge himself in most other kinds of aliments; not to repeat now, that this drink, like all other things, grows pleasant by custom. Doubtless, whoever hath had this disease, if he is not void of reason, will not hesitate at all to which to give the preference.

But notwithstanding, if the patient, either (1) from a long continued and immoderate use of intoxicating liquors; (2) or by reason of old age; or (3) great weakness, cannot digest his food without wine or some other fermented liquor, it is certainly dangerous for him to leave off wine on a sudden, an error that has in reality destroyed abundance of people. Such a person, therefore, in my opinion, should either not use the *dietetic apozem* above described, or if he be resolved to take it, should accustom himself to it by degrees (drinking a glass of wine for some time at meals) and rather by way of medicine than diet, till it become more familiar to him. But *Spanish* wine is to be preferred here to *Rhenish* or *French* wine, these last being apt to exasperate the humours and increase the morbid matter, notwithstanding they are very grateful to the stomach. To which we may add, that as they are almost as crude and indigested as

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our cyder, they are consequently not so warm and cordial, as the case demands. And these particulars shall suffice concerning the diet of *gouty* persons.

There is another caution to be inculcated which, though it may seem trifling is of great moment, both in order to digest the *gouty* matter during the fit, and also to prevent the generation thereof in the intervals, and that is, going to bed early, especially in winter. For, next to bleeding and purging, nothing impairs the strength more than sitting up late a-nights, which every valetudinarian can affirm from his own experience, provided he has only carefully observed how much more vigorous and cheerful he rose in the morning when he went to bed early, and how languid and faint he has found himself after sitting up late. And though there may seem to be no difference betwixt going to bed earlier or later, provided a person lies in bed the same number of hours; as, for instance, whether he goes to bed at nine and rises at five, or at eleven and rises at seven; yet it is not so, and I conceive, for this reason principally, namely, that in the day the spirits are dissipated, either by exercises of the body or mind, which are so weak, in sickly persons, that they require the assistance of sleep earlier in the evening; and, as the approach of night occasions a kind of relaxation of the animal economy, the tone of which was kept up in the day by the heat of the sun, the warmth of the bed becomes necessary to supply the place of the sun, especially in the winter season. But the spirits being refreshed and invigorated in the morning by the preceding night's sleep, together with the warmth of the bed, and the ensuing day likewise strengthening the tone of the parts still more, the rising early at this time, though it may take an hour or two from the morning sleep, hurts the constitution less than sitting up an hour or two later in the evening. For this reason I would advise such as are subject to the *gout* to go early to bed, especially in winter, and to rise betimes in the morning; though their having had less sleep than usual may incline them to lie longer in order to get it up. For the sleep which is got in the morning will rob them of as much the next night; and thus at length, by doing violence to nature, and despising its wise dictates, the night may be preposterously turned into day and the day into night.

The patient must likewise use his utmost endeavour to keep

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his mind easy, for all disquieting passions, if they once become immoderate, greatly dissolve the texture of the spirits, which are the instruments of digestion, and so of course increase the *gout*. He should, therefore, wisely reflect on his mortality, and not vainly imagine he is to escape the evils that are necessarily annexed to this state. For whether any affliction of mind befalls him through his own fault, or that of others, certain it is that he will never be able to prescribe laws to the world, which has not always obeyed any single person hitherto, how powerful and wise soever he hath been; nor will everything always answer anybody's expectations so exactly as he vainly hoped they would, but whilst he is engaged in regulating his affairs, of a sudden he becomes an example of human frailty, and unreasonably deprives himself of the transitory enjoyments of life. Too much application to study and business is likewise equally pernicious; for as this disease is oftener accompanied with melancholy than any other, such as are subject to it ordinarily fatigue and oppress the spirits to that degree, by long and intense thought, without the artificial help of reading, so that the body cannot longer preserve itself in a healthy state; and hence I conceive it is, that few fools have had the *gout*.

But nothing so effectually prevents the indigestion of the humours (which I esteem the principal cause of the *gout*) and consequently strengthens the fluids and solids, as *exercise*. It must, however, be observed, as I have already mentioned, that as there is more necessity for making a thorough change in the constitution in this than in any other *chronic* disease, so exercise, unless it be used daily, will do no service; for if it be intermitted at times, it will avail little towards changing the constitution, now reduced to a languishing and tender condition by idleness and indulgence, and may perhaps do mischief by causing a fit, after leaving it off for a considerable space of time. But exercise should be moderate, because the contrary in aged persons, who are chiefly subject to the *gout*, wastes the spirits too much, and consequently hurts the concoctive powers, which are strengthened by continued and gentle exercise. And though a person may think this hard, who, besides old age, inability to motion, and indolence, which is in a manner natural in this disease, is likewise tormented with pain, yet, if exercise be omitted, all the remedies which have been hitherto discovered

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will not at all avail. And as the intervals between the fits cannot be long, without constant exercise, so the patient will likewise be more subject to the *stone*, which is a more dangerous and painful disease than the *gout*.

To these we subjoin another momentous particular, namely, that the chalky concretions are considerably increased in the joints, and especially in the fingers, by long inaction; so that at length these parts quite lose their motion. For however positively some may assert that the matter of these concretions is only the *tartar* of the blood translated to the joints, it will nevertheless easily appear, upon considering the thing with a little more attention, that when a large quantity of indigested *gouty* matter falls upon some of the joints, and occasions a lasting swelling of the neighbouring parts, it happens at length, partly from their assimilating property being destroyed and partly from the obstruction caused therein by this sluggish humour, that this matter is generated, which is changed into this kind of substance by the heat and pain of the joint, and increases every day, converting the skin and flesh of the joint into its own nature, and may be picked out with a needle, and resembles *chalk*, *crabs' eyes*, or some similar substance. But I have experienced in my own particular that not only the generation of these concretions may be prevented by daily and long continued exercise, which duly distributes the *gouty* humours throughout the whole body, that otherwise readily attack a particular part, but it also dissolves old and indurated concretions, provided they be not come to such a degree as to change the external skin into their substance.

As to the kind of exercise, *riding on horseback* is certainly the best, provided it be not contra-indicated by age, or the *stone*; and indeed I have often thought, if a person was possessed of as effectual a remedy as exercise is in this and most *chronic* diseases, and had the art likewise of concealing it, he might easily raise a considerable fortune. But if riding on horseback cannot be used, frequent riding in a coach answers almost as well; and in this respect, at least, the generality of *gouty* persons have no cause to complain, because their riches, which induce them to live in such a luxurious way as occasions the disease, enable them to keep a coach, in which they may take the air, when they cannot ride on horseback. It must be noted, how-

ever, that a healthy air is vastly preferable to an unhealthy one for this purpose; thus the country is better than the town, where the air is full of vapours that exhale from the shops of different mechanics, and rendered still denser by the closeness of the buildings, as it is in *London*,¹ which is esteemed the largest city in the universe. But the great difference there is between using exercise in the country, or in town, a *gouty* person will soon find upon trial.

With respect to *venery*, if the *gouty* patient be in years, and so destitute of a sufficient share of spirits to promote the digestions, and his joints and the neighbouring parts consequently too much debilitated and relaxed, without any assistance from this destructive quarter; in this case, I say, it is as imprudent for such a one, in my opinion, to indulge those pleasures, as it would be for a person, after having engaged to go a long journey, to spend all his stock of provisions before setting out. Moreover, besides the mischief he does himself for want of restraining the languid inclinations of declining age, he loses the great privilege of enjoying that exquisite satisfaction, which by the particular indulgence of nature is reserved for the aged only, who, towards the period of their lives, are freed from the violence of those passions, which, like so many savage beasts, preyed upon them perpetually in youth, the gratification of them being by no means an equivalent for the long train of evils, which either accompany, or follow it. And let this suffice for regimen.

But though a *gouty* person by carefully observing these rules, relating to diet, and the rest of the *non-naturals*, may prevent violent fits, and so strengthen the blood and solid parts, as to free himself from that multitude of evils, which renders the disease not only intolerable, but in the end fatal; yet, notwithstanding, after some intervals, he will sometimes be seized with the *gout*, especially towards the close of winter. For though in the summer season, whilst the tone and strength of the blood are increased and preserved in that state by the heat of the sun, and perspiration goes on in a proper manner, the digestions must needs be much better performed than in winter; yet, as the blood is weakened, and perspiration obstructed upon the

¹ Sir William Petty ("Essay on Political Arithmetic, 1683,") estimated the population of London at this time as 670,000.

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approach of this season, there must needs be a copious indigested matter amassed, which at length, by its long continuance in the habit, will form a *species*, manifesting itself by proper symptoms, and giving a fit upon the first occasion, either by the humours being put into motion by the nearer approach of the sun, the use of wine, violent exercise, or other apparent cause.

It is clear, from what has been delivered, that whoever undertakes the cure of this disease, must endeavour to make a thorough change of his habit of body, and restore it to its former constitution, as far as age and other circumstances will permit; and this must be attempted only in the intervals between the fits. For when the morbid matter is not only generated, but already thrown upon the joints, it will be too late to endeavour to change it, or to expel it any other way; since it must be expelled by that method only which nature points out, and the business is to be left entirely to her management. This practice obtains in the paroxysms of *intermittents*; which, for the same reason, we do not attempt to remove till the heat be over. For it is equally absurd to be solicitous to take off the heat, thirst, restlessness, and other symptoms of these fevers, as to think the *gout* is to be cured by endeavouring only to abate the symptoms, whereas the cure is by this means obstructed and prolonged. For the more the pain is eased, the more the concoction of the humours is prevented; and in the same degree the lameness is relieved, and the expulsion of the morbid matter is checked. Again, the more the violence of the fit is suppressed, the longer it will last, and the shorter likewise the interval will be between the fits, and less free from every degree of the symptoms accompanying this disease; which will be acknowledged by any person who has attentively considered what we have delivered above in our history of this disease.

But though nothing considerable must be attempted in the fit, excepting only that those symptoms are to be relieved which an improper method of cure sometimes occasions; yet, as this disease is unanimously held to arise from a plenitude of humours, it may not perhaps be amiss for the patient to forbear flesh for a few days in the beginning of the fit, and instead of it to use water-gruel, or some similar aliment; for such a slender diet will greatly contribute towards lessening the quantity of the morbid matter, and give nature an opportunity of digesting it

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sooner. But as constitutions differ considerably, insomuch that some persons cannot bear to abstain from flesh without being immediately seized with a disturbance of the spirits, faintings, and other symptoms of the *hysteric* kind; such therefore will receive hurt by refraining from flesh any longer than the stomach is set against it, which for the most part is only the first or second day of those particular fits, all which joined together constitute the whole fit, as we have intimated above. But whether the patient eats flesh sooner, or later, he must be very cautious both of eating more during the fit than is requisite to support nature, and of the quality of the food. For great care should be had to guard against every error, either in the quantity or quality of the diet, both solids and liquids, even in the intervals of the fit, and especially in the fit itself. And further, no little regard is to be had in the intervals to the rest of the *non-naturals*, of which we have discoursed largely above; and though the pain and great inability to motion may seem to contraindicate exercise, which I have chiefly extolled in this distemper, the labour must nevertheless be undertaken; for though the patient may think himself utterly unable to bear to be carried into a coach in the beginning of the fit, and much more so to endure the motion of it; yet, upon trial, he will soon find himself more easy from such a motion than he is at home in his chair. Again, if this kind of exercise be used morning and afternoon for some hours, another advantage attends it, namely, it causes him to rest a great part of the night, which he could not do when he kept constantly within doors; for very moderate exercise fatigues a *gouty* person so much that he falls asleep. Besides, this kind of exercise is in some degree preventive of the stone, which an idle and sedentary life generally occasions. But the principal advantage resulting from the constant use of exercise, is the preventing the loss of motion in the limbs, which seizes several persons after the first or second long fit, occasioned by the contraction of the tendons of the hams and heels; for when the pain has been so violent that they have lain still a long time, not caring to stretch out their legs when it has attacked the knees, they at length lose the use of their legs and feet for the remainder of life, both during the intervals and in the fits, which nevertheless they do not escape. Again, in aged persons, whose concoctions are considerably vitiated, and who,

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by the long continuance of the disease, have the substance of their bodies in a manner changed into the *gout*, it is not to be expected that the disease can ever be brought to digestion without exercise; for when it exceeds the natural strength, they frequently perish by fainting and sickness, occasioned by the copious morbid indigestible matter, which cannot be assimilated, and destroys them like poison.

But notwithstanding what has been said of the usefulness of exercise in the paroxysms of the *gout*, yet, if the fit be so violent as to sink the patient in the beginning of it (which happens chiefly in those subjects in whom the *gout* is at the height, and hath continued in that state for many years) and confine him to his room, it will likewise be proper for him to keep his bed a few days, till the pain abates, as the warmth thereof will in some measure supply the want of exercise; for lying constantly in bed digests the morbid matter more effectually in a few days, than sitting up does in many, especially in the infancy of the disease, provided that the patient can forbear flesh without faintings and other bad symptoms, and be contented only with water-gruel, small-beer and the like. But it is well worth noting, that if the *gout* be inveterate, and disposes the patient to faintings, gripings, a looseness, and the like symptoms, he is in great danger of being destroyed by one of these fits, unless he uses exercise in the open air; for abundance of *gouty* persons have been carried off by these symptoms, which they have been subject to, from being confined within doors, and especially in bed, who had lived longer if they would have bore the fatigue of riding in a coach most part of the day. For though a person, who is afflicted only with a pain of his limbs, may keep his room; yet another, who, instead of violent pain, is troubled with sickness, and the other symptoms above enumerated, cannot do the same without endangering his life. And, in effect, it is well for the patient that there is no great need of motion or exercise as long as the pain continues so severe, that he cannot bear it; his life being secured by the pain, which is the sharpest remedy in nature.

But as to the symptoms of the *gout*; we are to relieve those which threaten life, the most frequent of which are the weakness and faintness of the stomach, with gripings, as if occasioned by wind; and these happen either to those who have had the *gout* many years; or to those who, though they have not had it long,

have nevertheless brought it on too hastily by quitting spirituous liquors of a sudden, for thin and very cooling liquors, or by applying repelling plaisters and other cooling topics to the parts affected, to ease the pain; whence the morbid matter, which should have been deposited in the joints, is transferred to the *viscera*. I have tried several remedies in my fits of late years to relieve these symptoms; but nothing did me so much service as a small draught of *canary*, taken occasionally, as the sickness and faintness required. Neither *French claret*, *Venice treacle*, or any other of the cardiacs I am hitherto acquainted with is so efficacious. But we are not to imagine that *canary*, or any other cordial, can wholly secure the patient without the use of exercise.

But if some violent symptom comes on suddenly, from the striking in of the *gouty* matter, and threatens death, we are not to trust to the wine or exercise above commended; but here, provided only the natural, or vital parts, and not the head, be affected, we must have immediate recourse to *laudanum*, and give twenty drops of it in a small draught of *plague water*, and the patient must compose himself to rest in bed.

But if the *gouty* matter occasions a *looseness* for want of being translated to the limbs, provided it be not the crisis of a particular fit, and yields not to *laudanum* and exercise of all kinds (for this is to be tried first in the cure of a *looseness*) but continues, attended with sickness, gripings and the like symptoms, the only remedy I know in this case is to raise a sweat by a suitable method and medicines; and if this be done every morning and night for two or three days running, keeping it up two or three hours at a time, it generally checks the *looseness*, and forces the morbid matter to the limbs. To this method I owe my recovery from this disease some years since (which I had imprudently occasioned by drinking cold water for my common drink) after having used cardiacs and astringents of various kinds to no purpose.

There is another symptom, which I have often seen, though it is not so common, namely, a translation of the peccant matter to the lungs, by a cough in the winter season, occasioned by taking cold in the fit, which by degrees invites the matter to those parts, the joints the meanwhile being in great part or totally freed from the pain and swelling, from the translation

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of the morbid matter to another part. In this single case, the curative indication is not to be levelled at the *gout*, but this symptom is to be treated like a true *peripneumony*, namely, by repeated bleeding, and cooling and incrassating medicines and diet, as the blood that is taken away, especially in this symptom, exactly resembles that of pleuritic persons. The patient likewise should be gently purged in the intervals of bleeding, to carry off the matter that is lodged in the lungs. But sweating, how effectual soever it may be in forcing the morbid matter upon the limbs, proves detrimental in this case, by hardening the matter that is driven upon the lungs; whence proceed small abscesses, and in the end certain death.

It is further to be noted, that most *gouty* persons, after the disease has been of long standing, become subject to the *stone in the kidneys*, and are generally seized with *nephritic pains*, either at the height, or more frequently at the declension of the cardinal fit, which are very severe, and weaken the patient considerably, who was but too much debilitated and exhausted by the preceding distemper. In this case, omitting all other remedies, let him immediately drink a gallon of posset water, in which two ounces of marsh mallow roots have been boiled, and inject the following glyster.

Take of the roots of marsh mallows and white lilies, of each an ounce; the leaves of mallows, pellitory of the wall, bears-breech, and camomile flowers, of each one handful; linseed and fenugreek seed, of each half an ounce; boil them together in a sufficient quantity of water to a pint and a half; dissolve in the strained liquor brown sugar, and syrup of marsh mallows, of each two ounces: mix the whole for a glyster.

As soon as the posset drink is vomited up, and the glyster come away, exhibit twenty-five drops of *liquid laudanum*, or fifteen grains of *Matthew's pill*.

If outward applications be inquired after to ease the pain in the *gout*, I know of none (though I have tried abundance both in myself and others) besides *coolers* and *repellents*, which I have already shown to be unsafe. And I scruple not to affirm, from a long course of experience, that most of those who are supposed to perish by the *gout*, are rather destroyed by wrong

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management, than by the disease itself. But if a person be desirous of trying the efficacy of such external medicines as are esteemed certain anodynes, to prevent being mistaken, instead of applying them at the declension of a particular fit, when the pain is just going off spontaneously, let them be used in the beginning, and he will soon be convinced of their insignificancy, and the groundlessness of his expectations; as they sometimes do mischief, but can never do service. For this reason I have laid aside the use of topics for several years; but I found most benefit formerly from a cataplasm, made of *white bread and saffron boiled in milk*, with the addition afterwards of a small quantity of *oil of roses*; which, however, did not at all relieve me in the beginning of the fit. If, therefore, the pain be extremely severe, the patient had better keep in bed till it abates a little, than to have recourse to anodynes; but notwithstanding it will be proper, if the pain be very violent, to take a dose of *laudanum* in the evening, otherwise it were better omitted.

But now I am treating of outward applications, I must say something of a certain *Indian* moss, entitled *moxa*, which is highly esteemed of late in the cure of the *gout*, the manner of using it being to burn slightly the part affected with it. Now, though this remedy is said to come from the *East Indies*, and to have been unknown to the *Europeans* till of late years, it will nevertheless appear to be of more ancient date with us, by consulting the writings of *Hippocrates*, compiled above two thousand years since. For treating of the *sciatica*, he advises: "*If the pain be fixt in any one part, and does not yield to medicines, in whatever part it be, to burn it with raw flax*"; and a little farther, speaking of the *gout* in the feet, he says: "*The same things are proper here, that do service in the gout of the joints; and indeed this is a long and painful, but not a mortal disease; if the pain, however, continue in the fingers, burn the veins above the joints with raw flax.*" Now I imagine that no body can think there is such a specific difference between the flame of burning *flax* and that of *Indian moss*, as to render the latter more effectual in the cure of the *gout* than the former; any more than he can suppose that a fire made with oak billets can do more than another made of ash. This burning of the part affected bids fair to ease the pain, and may sometimes effect it; the most subtile and spirituous part of the morbid matter de-

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posited in the part being by this means expelled. But the relief hereby obtained must needs be short, because it does not reach the indigestion, which is the antecedent cause of the *gout*; and it may seem needless to observe, that it is to be used only in the beginning of this disease. For when the *gout*, either by reason of its long continuance, or from wrong management, retreats to the internal parts, which sometimes happens, and, instead of pain, causes sickness, gripings, and abundance of the like symptoms, no judicious person will be for using fire.

And now I have communicated all that I have hitherto discovered concerning the cure of this disease; but if it be objected, that there are many specific remedies for the *gout*, I freely own I know none, and fear that those who boast of such medicines are no wiser than I am. And, in effect, it is to be regretted that the excellent art of medicine should be so much disgraced by such trifles, with which the credulous are deceived, either through the ignorance or knavery of authors; remedies of this kind being extravagantly extolled in most diseases by such as make a trade of these trifles. But what is more surprising, this ridiculous fondness does not only obtain in such diseases as are regularly formed, but in those likewise which are not formed, and proceed from some injury of the organs, or from an external cause, and it imposes upon persons that in all other respects are men of judgment. We have sufficient proof of this in such medicines as are commonly deemed specifics in contusions, such as *spermaceti*, *Irish slate*, &c., which only mislead us from the method required in these cases, as will appear by trying how much more safely and expeditiously these accidents may be cured by bleeding and purging alternately; without having recourse to these insignificant remedies, which are generally given after the first bleeding, and likewise to the raising a sweat, which ordinarily continues during the use of them, and heats the parts already disposed to an inflammation, so as to endanger the life of the patient without necessity.

To conclude, the method I have here laid down is founded upon a search into the above-mentioned signs and symptoms of the distemper, and by pursuing it I have relieved myself and others; but the radical cure of the *gout* is yet a secret, nor do I know when or by whom it will be discovered. I hope, nevertheless, that I have contributed in some degree to the good of

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mankind by this treatise, by faithfully pointing out these rocks whereon myself and many others have split, subjoining likewise the best method of cure which I have hitherto discovered, which is all I promise; though after long consideration I cannot help thinking that such a remedy will be found out hereafter; and if ever this should happen it will betray the ignorance of the theorists, and clearly show how notoriously they are mistaken in the knowledge of the causes of diseases, and in the medicines they give to cure them. We have a plain proof of this in the *Peruvian bark*, the best specific in intermittents; for, how many ages had the most acute physicians spent in searching into the causes of intermittents, and adapted such methods of cure as were best suited to their several theories? But how little honour those methods did to the theories whereon they were founded, appears from a late instance in the practice of those, who, ascribing the various kinds of intermittents to the redundancy of different humours in the body, ordinarily attempted the cure by altering and evacuating these humours; which succeeded ill with them, as is manifest from their failure, but especially from the more successful use of the bark, by the help of which, if given in a proper manner, we commonly answer the end effectually, without regarding those humours, diet, or regimen; unless the patient be unnecessary kept in bed whist he is taking it; in which case, however, so efficacious is this medicine, that it seldom fails curing the patient, notwithstanding this inconvenience of increasing the disease by the warmth of the bed. In the meantime, till the radical cure of the *gout* be found out, which all physicians, and myself in particular, ought to wish for, I entreat the reader to receive this little treatise in a favourable manner; but if he should not, I am so well acquainted with the tempers of mankind, that it will be no great disappointment to me; and I know my duty so well, that I shall not be discouraged thereat. And, if the racking pains, unfitness for motion, and other disorders which I have been afflicted with during the greatest part of my life, together with the loss I have sustained in my business by sickness, may be a means of relieving others, I shall have some reward for the miseries of this kind, which I have suffered in this life, now I am leaving it for another.

SHORTER WRITINGS.

Besides the "Medical Observations on Acute Diseases" and the "Treatise on the Gout and on the Dropsy," Sydenham's writings comprise :—

EPISTLE I.—ON THE EPIDEMIC DISEASES up to 1679.

EPISTLE II.—ON VENEREAL DISEASE.

EPISTOLARY DISSERTATION.

SCHEDULA MONITORIA. On the appearance of a new Fever.

PROCESSUS INTEGRI.

EPISTLE I.—EPIDEMIC DISEASES.

This epistle was written in reply to a courteous request from Dr. Brady, that Sydenham would continue the remarks on the Epidemic Diseases from the year with which his Medical Observations stopped, and that in particular he would give a detailed account of the manner in which he used the Peruvian bark, and of his treatment for rheumatism. With these requests Sydenham complied in February, 1679-80, and the treatise is particularly valuable for his remarks on the treatment of intermittent fevers by the bark. The paragraphs quoted deal with Sydenham's use and advocacy of Peruvian bark in treating malaria and with his method of treating rheumatism. It is evident from this extract that both benign and malignant malaria were very common in England during the seventeenth century.

The part played by Sydenham in the introduction and popularization of Peruvian bark for the treatment of malaria has been discussed on pp. 23-25. His practice lay largely in Westminster and Pimlico, a district which then contained a swampy backwater of the Thames. Here fevers were very rife. A good idea of the district in which he practised is given by Plate II, showing the view over which his windows looked, sketched in 1660 from a point about two hundred yards to the west of where his house stood in Pall Mall.

EPISTLE I.—ON THE EPIDEMIC DISEASES UP TO 1679.

TO THE MOST EXCELLENT AND LEARNED

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* * * * *

THE constitution of the following year, namely, of 1678, being entirely changed, so eminently favoured *intermittents*, that they again became epidemic, whereas from 1664 to this time, including the space of thirteen years, they were in a manner extinct in town, except only that they seized a few *sporadically*, or were by accident brought with them out of the country. And they will not continue in this state, but will spread much more, till this constitution of the air whence they proceed comes to its height. For though only a few of these *intermittents* arose in the spring, yet they prevailed so much over all other diseases at the decline of summer and beginning of autumn as to be the sole epidemic diseases. But in the winter they yielded by degrees to the *small-pox*, and the other reigning epidemics, till the return of the season peculiar to them.

To proceed now to deliver what we have learnt by dilligent observation, relating to the nature and causes of these fevers.

First then it is to be noted that though *quartans* were more frequent formerly, yet now *tertians* or *quotidians* were most common, unless the latter be entitled *double tertians*; and likewise that though these *tertians* sometimes began with chillness and shivering, which were succeeded first by heat, and soon after by sweat, and ended at length in a perfect intermission, returning again after a fixed time, yet they did not keep this order after the third or fourth fit, especially if the patient was confined to his bed, and used hot cardiacs, which increase the

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disease. But afterwards this fever became so unusually violent, that only a *remission* happened in place of an *intermission*; and approaching every day nearer to the species of continued fevers, it seized the head, and proved fatal to abundance of persons.

As to the cure, I have learnt by many years' experience that it is dangerous to attempt to remove *tertians* and *quotidians* by *sudorifics*; especially when they are recent, and have assumed no certain shape; for they then nearly approach to continued fevers. And though it is well known that as soon as the sweat breaks out, the restlessness and other symptoms presently go off, and a perfect intermission succeeds, and consequently that it should be somewhat promoted, or at least not hindered, when the fit is going off, yet it is manifest that if sweat be forced beyond the due degree, the intermittent becomes a continued fever, and life is endangered; I conceive the reason of this to be, that so profuse a sweat (since it exceeds the quantity of the febrile matter, already so attenuated by the heat of the fit, that it may now be expelled by despumation) after it has carried off such a part thereof, as is sufficient to produce a single fit, wastes the rest in inflaming the blood. Upon considering, therefore, the inefficacy of this method, and the inconveniences attending other evacuations, as bleeding and purging, both which, by weakening the texture of the blood, prolong the disease, the *Peruvian* bark afforded me the surest hope; of which I can truly say, notwithstanding the prejudice of the vulgar and a few of the learned, that I never found, or could reasonably suspect, any ill consequence follow its use; unless that such have taken it a long time are sometimes seized with a *scorbutic rheumatism*, as I have before remarked in treating of the *Rheumatism*. But this order seldom proceeds from this cause, and, when it does, readily yields to the remedies there prescribed.

And, in reality, if I were as certain of the continuance of its effects, as I am of the innocence of the *bark*, I should not scruple to prefer it to all the medicines hitherto known; since it is not only excellent in this disease, but likewise in those of the *uterus* and stomach: so little reason is there to complain of its unwholesomeness.

But I conceive the bark has been condemned, chiefly, for the following reasons: (1) Because the many terrible symptoms, which accompany intermittents of a long standing, where not a

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grain of bark has been given, are immediately ascribed to it, upon taking but a single dose of it. (2) Because it cures the disease by secret virtue, and not by any sensible evacuation, many persons conclude that the morbid matter, which ought to have been expelled, is retained in the body by its astringency, and ready to occasion fresh disturbance; the disease not being entirely carried off. But such persons do not sufficiently consider, that the sweats happening at the decline of the fit have expelled all the morbid matter that was collected on the well days, so that only the seeds of the disease remain, to be ripened in time; and that the *bark*, by closely pursuing the retiring fit, and cutting off the supplies of the illness, cannot be a means of retaining the morbid matter in the blood, which is now existent there only in *embryo*; and consequently is not to be esteemed productive of those fits and obstructions which are commonly judged to proceed from its use.

But how does it appear that the *bark* cures *intermittents* by its astringency? In order to prove this, other astringents, possessed of the same virtue, must first necessarily be produced; I have tried the strongest ineffectually. Besides, the *bark* cures even where it purges, which is sometimes the case. Upon the whole, therefore, they act the wisest part, who confine their inquiries to their abilities. But if anybody will delude himself and imagine that he is possessed of other faculties than such as either help him to understand natural religion, which teaches that God, the creator and governor of all things, is to be worshiped with profound veneration, as he justly merits; or moral philosophy, that he may practise virtue, and make himself an useful member of society; or, lastly, the medical, mathematical, and mechanical arts, which are so useful to the purposes of life. Let him, first, deduce an hypothesis, from natural philosophy, that will enable him to explain the cause of but a single specific difference of things in nature. For instance, let him account for the universal greenness of grass, and why it is never of any other colour, and the like. And if he can do this, I will readily embrace his sentiments; but if not, I shall not scruple to affirm, that all the diligence and caution of a physician should be employed in investigating the history of diseases, and applying those remedies which stand recommended by experience for the cure thereof; pursuing notwithstanding that method which is

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founded on right reason, and not the result of idle speculations. I will therefore briefly deliver what experience hath taught me, relating to the method of exhibiting the *bark*.

The *Peruvian bark*, commonly called the *Jesuit's powder*, to the best of my remembrance, began to be esteemed at *London*, for the cure of intermittents, and especially *quartans*, about twenty-five years ago¹; and indeed very deservedly, as these diseases were seldom cured before by any other method, or medicine; whence they were reputed the *opprobria medicorum*, and not without reason. But not long after it lost its character, and was entirely disused, for two cogent reasons: (1) Because being exhibited only a few hours before the coming of the fit, according to the received custom of that time, it sometimes destroyed the patient; which I remember happened to Mr. *Underwood*, a citizen and alderman of *London*, and to Captain *Potter*, an apothecary in *Blackfriars*. This fatal effect of it, though very rare, did, however, justly prevail with the more prudent physicians to refrain its use. (2) Because though it seldom failed to free the patient from the fit, that would otherwise have come, yet the fit commonly returned again in a fortnight, especially when the disease was recent, and not spontaneously abated by length of time. These reasons weighed so much with the generality that they lost all the hopes they had formerly conceived of this medicine; nor did they esteem it so material to prevent the access of a fit for a few days, as upon this account to endanger their lives by taking it.

But having some years since thoroughly considered the extraordinary virtues of the *bark*, I was firmly persuaded that *intermittents* could not be better cured than by this efficacious medicine, provided it were given with proper caution. For this reason I spent much time in studying how to prevent the danger ensuing from its use, and the relapse that succeeded in a few days, which were the two inconveniences to be avoided, and by means thereof to restore the patient to perfect health.

(1) I conceived that the danger proceeded less from the bark itself, than from the unseasonable use thereof; for when a large quantity of febrile matter is collected in the body on the well

¹ *i.e.*, about the year 1655.

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days, the *bark*, if taken immediately before the fit, obstructs the expulsion of the morbid matter in the natural way (namely, by the violence of the fit) which being hereby improperly detained usually endangers life. But I judged I could remedy this evil, and likewise prevent the fresh generation of the febrile matter by giving the powder directly upon the departure of the fit, so that a stop might be put to the next succeeding one; and by repeating it on the intermediate days, at proper distances, till the approach of a new fit; so that by this means the blood might be impregnated gradually, and consequently safely, with the salutary virtue of the *bark*.

(2) As the relapse, which generally happened in a fortnight, seemed to me to be occasioned by not sufficiently impregnating the blood with the virtue of the febrifuge, which, however efficacious, was not powerful enough to cure the disease at once, I judged that the best method to prevent a relapse would be to repeat the powder, at proper intervals, before the virtue of the preceding dose was quite spent, even though the *intermittent* appeared to be conquered for the present.

These considerations led me to the following method, which I now use. When I am called to a person afflicted with a *quartan*, suppose on a *Monday*, if the fit is expected the same day, I refrain from doing anything, and only give the patient hopes that he shall be freed from the next fit. And, in order to effect this, I exhibit the *bark* upon the two intermediate or well days, namely, *Tuesday* and *Wednesday*, in the following manner:—

Take of Peruvian bark, very finely powdered, one ounce; syrup of cloves, or of dried roses, enough to make it into an electuary; to be divided into twelve doses, whereof let the patient take one every fourth hour, beginning immediately after the fit is gone off, and drinking after each dose a draught of any kind of wine.

Or, if pills be more agreeable,

Take of the Peruvian bark very finely pulverized, one ounce; syrup of cloves enough to make it into pills of a middling size; of which let the patient take six every fourth hour.

But an ounce of the powder may be mixed with a quart of *claret*, with less trouble, and equal success, and eight or nine

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spoonfuls of it given at the intervals above mentioned. I order nothing on *Thursday* when the fit is expected, because for the most part it does not come, the remainder of the febrile matter being despumated, and expelled the blood, by the usual sweats which terminated the preceding fit, and a collection of fresh matter being prevented by the repetition of the powder on the days between the fits.

But in order to prevent a relapse, which was one of the inconveniences above recited, on the eighth day after taking the last dose I always ordered the same quantity of the powder (viz., an ounce divided into twelve doses) to be taken exactly as the former was. But though a single repetition of the *bark* in this manner frequently cures the disease, yet the danger is not over unless the patient will be ruled by his physician, and repeat it thus a third or fourth time; especially when the blood has been impoverished by some preceding evacuation, or the body unadvisedly exposed to the cold air.

Now though there is no inherent purgative virtue in this medicine, yet a violent purging is frequently occasioned thereby, from some peculiar *idiosyncrasy* in the constitution. In this case it is indispensably necessary to exhibit *laudanum* therewith, to prevent its having this effect (which is manifestly as opposite to its own nature, as it is to this disease) and that it may be retained long enough to answer its end. Therefore I order ten drops of *laudanum*, to be given in a little wine after every other dose of the powder, if the looseness continues.

I follow the same method in other intermittents, whether *tertians* or *quartans*; for immediately after the fit is gone off, in both I administer a dose of the powder, and repeat it as frequently during the intermission, as the nature of the disease will admit; but with this difference, that where as a *quartan* can very rarely be cured with less than one ounce divided into proper doses, a tertian may be so far conquered with six drams, as at least to give a respite.

But though *tertians* and *quotidians* after a fit or two may seem entirely to intermit, yet, as I have before observed, they afterwards frequently degenerate into a kind of continued fevers and only come to a *remission* even on those days that promised an *intermission*; especially when the patient has been kept too warm in bed, or been tormented with medicines to

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carry off the intermittent by sweat. In this case, I have no other way left, but to seize the opportunity of the *remission*, though it be ever so small; and accordingly I give the powder immediately after the fit is gone off, as near as I can conjecture, and repeat it every four hours, as above mentioned, without waiting for a regular intermission, because otherwise the *alexiterial* virtue of the *bark* cannot be communicated to the blood in so short an interval.

And though the present reigning *intermittents*, after the second or third fit, incline to *continued* fevers, yet they must be referred to the *intermittent* kind; and therefore I scruple not to order the *bark*, even in the most continued of the sort; the repetition of which in the above-mentioned manner will certainly remove the disease, provided the constant warmth of the bed, and the improper use of cardiacs, have not rendered it a *continued fever*; in which case I have frequently found the *bark* fail. Nor have I ever found the wine wherein the *bark* is administered, do the patient any harm, which might reasonably be suspected; but contrariwise the heat, thirst, and other febrile symptoms generally went off soon after taking a sufficient quantity of it. But it must be noted here that the nearer the *intermittent* approaches to a *continued fever*, either spontaneously or from using too hot a regimen, the more necessary it is to exhibit a larger quantity of the *bark*; for I have sometimes found that the *intermittent* would not yield to less than an ounce and a half, or two ounces of the *bark*.

As some persons can neither take the *bark* in powder, in an electuary, nor in pills, I give them an infusion of it, made with two ounces of *bark*, grossly powdered, and infused cold for some time in a quart of *Rhenish wine*; which being several times passed through a fine strainer, becomes so clear as not to be disagreeable to the nicest palate. Four ounces of this infusion, after it has stood some days, should seem equivalent in virtue to a dram of the bark in substance; and as it is neither unpalatable, nor lies heavy upon the stomach, it may be taken twice as often as any other form of it, till the disease vanishes.

When this disease hath assumed no regular appearance, it is sometimes attended with an almost continual vomiting, so that the bark cannot be retained in any form; in this case the vomiting must be stopped first, before it can be administered. For

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this purpose I order a scruple of *salt of wormwood* to be dissolved in a spoonful of fresh *juice of lemons*, and taken six or eight times in the space of two hours; and afterwards I give sixteen drops of *liquid laudanum* in a spoonful of *strong cinnamon water*; and soon after, if the vomiting stops, the patient must begin with the bark.

For children, who, by reason of their tender age, can scarce bear to take this remedy in any other form, at least in a suitable quantity to effect a cure, I generally prescribe the following julap:—

Take of black-cherry water and Rhenish wine, each two ounces; Peruvian bark, finely powdered, three drams; syrup of cloves, an ounce: mix them together for a julap. Let the child take a spoonful or two every fourth hour (according to his age) till the fits vanish, dropping into every other dose, in case of looseness, one or two drops of liquid laudanum.

It must further be observed that the intervals between the fits in *tertians* and *quotidians* are so short that there is not sufficient time to impregnate the blood thoroughly with the febrifuge virtue of the bark: so that it is not possible that the patient should so certainly miss the next fit the first time of taking it, as it commonly happens in a *quartan*; for the medicine in these cases will frequently not perform the expected cure in less than two days.

It must also be noted that if the patient, notwithstanding the observance of the cautions above delivered, should relapse, which happens seldomer in a *quartan* than in *tertians* or *quotidians*, it will become a prudent physician not to adhere too closely to the method of giving the bark at the above-mentioned intervals, but to attempt the cure, as his judgment shall direct, by some other procedure; and here the *bitter decoction* is generally esteemed a very powerful medicine.

With respect to diet and regimen, the patient must be allowed the use of all sorts of solid or liquid aliments that agree with his stomach; fruit and cold liquors always excepted, because they impoverish the mass of blood, and are very apt to occasion a relapse. Let his food therefore be flesh of easy digestion and good juices, and let him use wine moderately for his common

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drink; by the sole use whereof I have sometimes recovered such habits as have been in a manner fortified by the frequent return of the intermittent against the bark, so as never to yield to its salutary virtue. The patient likewise must not unadvisedly expose himself to the cold air till the blood has recovered its former healthy state.

It must be noted here that though, in treating of intermittents heretofore, we recommend due purging after the disease has gone off, yet this practical caution is only to be understood of such intermittents as either went off spontaneously, or were cured by some other medicine and not by the bark. For when the cure is effected by this, cathartics are unnecessary and hurtful; so powerfully does the bark, alone, relieve the fits, and the indisposition they occasion. Hence therefore all kinds of evacuations must be refrained; for the gentlest purge, nay even a glyster of *milk* and *sugar*, will certainly endanger a relapse, and perhaps reproduce the disease.

And here it is proper to mention that a very remarkable symptom did sometimes succeed these intermittents in the first years of this constitution. For the fits did not begin with chillness and shivering, which were succeeded by a fever; but the patient was seized with the symptoms of a true *apoplexy*, though in reality, how nearly soever it resembled this disease, it was nothing more than the effect of the fever seizing the head; as plainly appeared from other signs, as well as the colour of the urine, which in *intermittents* is mostly of a deep red (but not so red as in the *jaundice*) and likewise lets fall a *lateritious* sediment. Now though in this case all kinds of evacuations seem to be indicated, in order to make a revulsion of the humours from the head, as is generally practised in the genuine apoplexy, yet they are to be wholly refrained, because they are very prejudicial in the intermittents, whence this symptom originally proceeds, and consequently endanger life, as I have observed. On the contrary, therefore, we must wait till the fit goes off spontaneously, when the bark (in case it could not be given sooner) must be immediately exhibited, and carefully repeated in the intervals, till the patient be perfectly recovered.

It sometimes happens, though very rarely, that the aged, after having been long afflicted with this disease, and weakened

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by improper bleeding and purging, are seized with a *diabetes*,¹ though the intermittent be perfectly cured. For their blood being by this means so impoverished as to be utterly unable to assimilate the juices received into the mass, they pass off crude and indigested by the urinary passages, and, in consequence of the large quantity of urine which is voided every time they make water, the strength is gradually impaired, and the substance of the body in a manner washed away. The indications of cure in this case, and in every *diabetes*, however occasioned, are (1) to enrich and strengthen the blood and (2) to stop the preternatural discharge by urine.

For instance, *Take of Venice treacle, an ounce and half; conserve of orange peel one ounce; diascordium, half an ounce; candied ginger and nutmeg of each three drams; Gascoign's powder, a dram and half; of the outward bark of pomegranate, the root of Spanish angelica, red coral prepared, and the troches of Lemnian earth, each a dram; bole-armeniatic, two scruples; gum-arabic, half a dram; syrup of dried roses, enough to make altogether into an electuary: of which let the patient take the quantity of a large nutmeg in the morning, at five in the afternoon, and at bedtime, for the space of a month, drinking after each dose six spoonfuls of the following infusion:—*

Take of the roots of elicampane, masterwort, angelica, and gentian, of each half an ounce; the leaves of Roman wormwood, white horehound, the lesser centaury, and calamint, each one handful; juniper berries, an ounce; when these ingredients have been sliced and bruised, as they require, pour upon them five pints of canary, and let them stand together in a cold infusion, and strain it as it is used.

The patient's diet should be food of easy digestion, as veal, mutton and the like; he must forbear garden herbs and fruits of all kinds, and drink *Spanish* wine at meals.

That obstinate and lasting disease, the *fluor albus*, may be cured nearly by the same method and medicines as the *diabetes* just mentioned; for the curative indications in both are the same, how much soever these diseases may seem to differ. But in the

¹ For the use of the word "diabetes" see note on p. 63.

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cure of the *fluor albus* bleeding must be used once, and afterwards purging thrice with two scruples of the greater *pil. cochia*, before we proceed to strengthening medicines; but no oftener during the whole process, because all kinds of evacuations destroy the virtues of strengthening remedies. But this by the way.

And these are the observations I had to communicate, in a summary way, concerning the use of the Peruvian bark; for my design was not to consult the pomp of medicine. And in reality they who add anything more to it than a vehicle which is necessary to carry it into the stomach, in my opinion either do it ignorantly, or fraudulently, which every good man must needs detest, who, as a part of the community, would not be induced to commit such a fraud for his private advantage. As to what remains, if my contemporaries had vouchsafed to consider what I published four years ago in my history of acute diseases (which, it is highly probable, I was acquainted with before that time) concerning the method of exhibiting the bark in the intervals of the fits, and the succeeding repetition of it, when the disease is gone off, perhaps the lives of many persons had been saved; how much soever some men condemned my slender endeavours for the public good, and slighted the cautions there delivered in the following words, which briefly contain what I have here judged proper to enlarge upon, *viz.* :—

“ (1) The greatest caution must be had not to give it too early, namely, before the disease be in some measure spontaneously abated, unless the extreme weakness of the patient requires it to be exhibited sooner; for the administering it too soon may render it ineffectual, and even fatal, if a sudden check should be hereby given to the vigorous fermentation of the blood in the act of despumation. (2) We must not order purging, much less bleeding, to carry off a part of the febrile matter, and render the bark more effectual; for they both weaken the tone of the parts, whence the disease returns so much the more speedily and certainly, after the virtue of the bark is spent. It were better, in my opinion, to impregnate the blood with this medicine by degrees, and at distant intervals from the fit, rather than endeavour to stop it at once, just upon its coming; for by this means the bark has more time to produce its full effect in, and, besides,

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the mischief is avoided that might happen by putting a sudden and unseasonable stoppage to the immediately approaching fit. (3) The bark must be repeated at short intervals, that the virtue of the former dose may not be entirely gone off before another be given; and by repeating it frequently the disease will at length be perfectly cured. These reasons led me to prefer the following method of giving it:—

“Take of the Peruvian bark, one ounce; syrup of roses, two ounces; make an electuary thereof: take the quantity of a large nutmeg, every morning and night on the intermediate, or well days, till the whole be taken; and let it be repeated thrice, interposing a fortnight between each time.”

But though the bark is the best medicine hitherto discovered for the cure of these diseases, yet I have known persons in the prime of life, and of a sanguine constitution, cured of vernal tertians by the following remedies. For instance, let the patient be bled in the arm on the intermediate day, and some hours afterwards, upon the same day, give an emetic of the infusion of *crocus metallorum*, regulating the time in such manner that its operation may be over before the fit comes; and as soon as it is gone off, let him begin with the following electuary:—

Take of the extract of wormwood, gentian, and the lesser centaury, each two drams; mix them together, divide the whole into nine doses, of which let one be taken every fourth hour, drinking after each dose of the bitter decoction without purgatives, and of white wine, each three ounces.

There is another method of curing these *tertians* in persons of low circumstances, who are unable to bear the expense of a long course of medicines. As,

Take of Virginian snake-weed, in fine powder, a scruple, white wine, three ounces: mix them together. Let the patient take it two hours before the fit comes, and being well covered with cloths, sweat three or four hours afterwards, and let it be repeated twice in the same manner.

In the following year, *viz.*, 1679, these intermittents reappeared at the beginning of *July*, and increasing every day,

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proved very violent and destructive in *August*. But having already treated of these at large, I shall only observe that they gave way to a new epidemic, which proceeded from the manifest qualities of the air in *November*.

* * * * *

As to the cure of the *rheumatism*, which you likewise desire to be informed of, I have frequently regretted, as well as you, that it could not be accomplished without the loss of a large quantity of blood by repeated bleeding; whereby the strength is not only impaired for a time, but weak persons are usually more disposed to other diseases for some years; when the matter occasioning the rheumatism afterwards falls upon the lungs, the latent indisposition in the blood being put into action by taking cold or some other slight cause. These reasons induced me to search after some other method of curing this disease than such repeated bleeding. And having well considered that it seemed to proceed from an inflammation, as appears from the other symptoms, but especially from the colour of the blood, which exactly resembles that of pleuritics, I judged it might probably be as successfully cured by a plain cooling and moderately nourishing diet as by repeated bleeding; and the inconveniences likewise attending that method avoided. Accordingly I found that a diet of *whey* used instead of bleeding had the desired effect.

I was called last summer to Mr. *Malthus*,¹ an apothecary in my neighbourhood, who was afflicted with a severe rheumatism, accompanied with the following symptoms. During the first two days he was attacked with a lameness in his hip, which was succeeded by a dull pain of the lungs, with a difficulty of breathing, which likewise went off in two days; then he was seized with a violent pain of the head, and soon after with a pain of the right hip, which was first attacked, and afterwards almost all the joints of the arms and legs were affected by turns, according to the nature of the disease. As he was of a weak and dry constitution, I was apprehensive that by taking away much blood

¹This was an ancestor of the Rev. Thomas Malthus (1766-1834), the political economist and author of the *Essay on the Principle of Population*. Mr. Daniel Malthus, mentioned above, acted as guardian to Sydenham's children after their father's death.

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his strength, which was already declining, might be quite exhausted; especially as the summer was so far advanced that it was to be feared that winter would come before he could recover his strength impaired by frequent bleeding; and therefore I ordered him to live upon whey only for four days, after which I allowed him white bread, besides the whey, for his common food, namely, once a day, instead of a dinner, till he recovered. Contented with this slender diet he persisted in it eighteen days, only towards the latter end I permitted him to eat white bread at supper also. He drank a gallon of whey every day, which afforded him sufficient nourishment. At the end of this term, when the symptoms were gone off, and he got abroad, I allowed him to eat flesh, as boiled chicken and other food of easy digestion. But every third day he lived upon whey only, till at length he recovered, and by this method escaped the inconveniences I mentioned above, which had been very troublesome ten years before, when frequently repeated bleeding was used by my order for his cure.

If anyone should lightly esteem this method, by reason of its inelegance and plainness, I must tell him that only weak minds slight things because they are common and simple; and that I am ready to serve mankind, even at the expense of my reputation. And I must add that, were it not for the prejudice of the vulgar, I am certain that this method might be suited to other diseases, which I shall not now enumerate. And in reality it would be much more serviceable than the pompous garlands of medicines, with which such as are ready to expire are crowned, as if they were to be sacrificed like beasts.

* * * * *

But to return to the *rheumatism*: how suitable soever a milk diet may be for young persons and such as have lived temperately and by rule, it is notwithstanding unsafe to treat the aged in this manner, and such as have long accustomed themselves to too free an use of wine and other spirituous liquors; for it injures their stomachs, and by considerably chilling the blood, disposes to a dropsy. In this case therefore it is highly proper to use nearly the same method of cure, which I have already delivered, though since I wrote that I have found by experience

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that it is better after the second, or at most the third bleeding, to purge often, until the symptoms go off entirely, than to trust to bleeding only. For purging being an assistant to bleeding in the cure of this disease, it will not be necessary to lose so much blood; and besides by this means there will be place left for opiates, which otherwise must be refrained, how severe soever the pain might prove, because they fix the disease, and it does not yield so easily to bleeding. But the purgatives should be of the milder kind, as *tamarinds*, *senna*, *rhubarb*, *manna* and *solutive syrup of roses*; for such as are made of *scammony*, *jalap* and the like occasion great disturbance and increase the pain. And every evening after the purge has done working, let an ounce of *syr. de meconio* be given somewhat earlier than ordinary.

It must be noted here that during the present constitution I have met with a certain symptom, at one time resembling the *rheumatism*, and at another a *nephritic pain*, in the violent pain in the loins; which, as it used to succeed intermittents, proceeded from a translation of the febrile matter to the muscular parts of the body. But this disorder did not require a different treatment from the intermittent which it accompanied; for it is increased, and life endangered, by frequent bleeding, and any other evacuation. I judged it proper to drop this short hint concerning it that no one might be misled thereby.

To conclude, these, worthy Sir, are the particulars which I have learnt from diligent observation, relating to the diseases which are the subject of your inquiries; and if they prove acceptable to you, or useful to others, I have gained my end; at least I enjoy the satisfaction of having done my duty by complying with your request in the best manner I am able, who am ever

Your most devoted servant,

THO. SYDENHAM.

EPISTLE II.—VENEREAL DISEASE.

This epistle was written in March 1679-80 in reply to a friendly letter from Dr. Paman, that Sydenham would give his experience upon the treatment of this malady which was then left to "quacks, barber-surgeons, and mountebanks," with detriment to the sufferers. It will be observed that Sydenham classes *lues venerea* as a new disease in Europe of the fifteenth century, but regards it as brought not from the newly discovered America but from Guinea where he considers that *yaws* constitutes the same disease. This idea was not however new, since the identity of these two diseases had been suggested more than a century earlier by Fernandez de Oviedo in his *Cronica de las Indias* (1547) and by André Thevet in *La France Antartique* (1558). The question is vexed and still undecided as to whether syphilis was originally a disease of America only, brought thence to Europe by the sailors of Columbus in 1493, or whether it had existed from early times in the Old World and simply became more prevalent and so attracted attention as a new disease about the end of the fifteenth century.

Sydenham's views on salivation are interesting and were probably responsible for the subsequently widespread practice of this method of cure. Sydenham admitted only one venereal disease, of which he regarded gonorrhœa and syphilis as different manifestations. The same view was still held a century later, notably by John Hunter, who in 1767 by an experimental inoculation from a case of supposed gonorrhœa transmitted infection with syphilis. The first clear differentiation appears to have been made by Benjamin Bell (1793) in his *Treatise on Gonorrhœa Virulenta and Lues Venerea*. The distinction of the two diseases was not, however, certain, till the discovery of the causative organisms, the gonococcus by Neisser in 1879, and the spirochæte of syphilis by Schaudinn and Hoffmann in 1905.

Both of these letters were apparently written from notes that Sydenham had by him; in the case of the second letter for some ten years.

EPISTLE II,—ON VENEREAL DISEASE.

TO THE MOST LEARNED AND ILLUSTRIOUS

HENRY PAMAN, M.D.,

*Fellow of St. John's College, Public Orator of the
University of Cambridge, Professor of Medicine at
Gresham College, Cambridge.*

THOUGH in civility to me you obligingly term my late treatise on *acute diseases* a finished performance, yet so conscious am I of my own inability and its defects, that I reckon I have only pointed out the way by which men of greater abilities may investigate the history and cure of these diseases.

Let me sharpen others, as the hone
Gives edge to razors, though itself has none."

And, in reality, so various, uncertain and subtle is nature's procedure in the production of these diseases, that the oldest physician living is not able scientifically to describe their different symptoms and proper methods of cure. Such a work would afford sufficient employment for any ten physicians succeeding each other for as many ages, and those also men of eminent parts, indefatigable industry, and of very great practice, which may furnish them with numerous observations: so far am I from having attained, or imagining I ever shall attain the art of physic.

As to those *chronic diseases*, the history whereof I promised you to write, my thoughts are so taken up with it, that if I know my own mind, I do not so much wish to have my life prolonged for any other reason as that of being serviceable to mankind in this way. But daily experience convinces me how difficult and hazardous an undertaking this is, especially for me, whose abilities are unequal to the task; for among medicinal writers, excepting *Hippocrates* and a very few others, we meet with little to assist us in our inquiries into so intricate a subject; the assistance and light which authors promise, being rather

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false than true lights, which tend to mislead, and not to direct the mind in its researches after the genuine procedure of nature. Most of their writings are founded upon *Hypotheses*, and the result of a luxuriant imagination; and the symptoms of diseases (wherein their true history consists) as described by them, appear to be deduced from the same source; and the method of cure also is derived from the same fictitious principles, and not from real facts, and thus becomes most destructive to mankind: so full of specious reasonings is every page of the writings of such superficial men, whilst the directions of nature are overlooked. But notwithstanding these obstacles, if God prolongs my life, and I can find leisure, I may perhaps put my abilities to the test. In the meanwhile, to convince you of my readiness to serve you, I present you with this short dissertation on the *venereal disease*, as a specimen of the whole; it being the only one I have yet prepared for the press.

THE HISTORY AND TREATMENT OF THE VENEREAL DISEASE.

But in the first place I must observe that I have met with several, who either with a good intent, in order to deter the incontinent from their vicious practices, by the apprehension of the succeeding punishment, or to acquire the character of chaste persons themselves, have not scrupled to assert that the cure of the *venereal disease* ought to be kept secret. But I cannot be of their opinion, because I conceive that there would be very little room left for charity, or doing good offices, unless the misfortunes which thoughtless persons bring upon themselves by their own fault, were to be alleviated with humanity and tenderness. It belongs to God to punish the offence, but it is our duty to assist the distressed, and relieve the diseased to the best of our power, and not to make too strict an inquiry into the cause of the evil, and irritate them by our censures. For this reason, therefore, I will deliver what I have observed and experienced in this disease; not that I intend to make men's minds more vicious, but to cure their bodies, which is my province.

The *venereal disease* was first brought from the *West Indies* into Europe in the year 1493, for before that time the very name of it, as far as we can collect, was unknown amongst us; whence this disease is generally reputed to be *endemic* in those

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parts of *America* where we first planted our colonies. But to me it rather seems to have taken its rise from some nation of the *Blacks* upon the borders of *Guinea*; for I have been informed by several of our countrymen of great veracity, who lived in the *Caribbee* islands, that the slaves which are newly brought from *Guinea*, even before they land, and likewise those that live there, are afflicted with this disease, without having known an infected woman; so that it frequently seizes whole families, both men, women and children. And, as far as I can learn, this disease, which so frequently attacks these miserable people, does not at all differ from that we call the *venereal disease*, with respect to the symptoms, viz., the pains, ulcers, &c., allowing for the diversity of climates; though it goes under a very different name, for they entitle it the *yaws*. Nor does their method of cure differ from ours, for in both cases a salivation raised by quick-silver carries off the disease; notwithstanding what we say here of the excellent virtue of *guaiacum* and *sarsaparilla* in those places where they grow, which is judged to be nearly lost in their long passage to us.

It seems probable therefore to me that the *Spaniards* who first brought this disease into *Europe* were infected with it by contagion communicated from the *Negroes* which they purchased in *Africa*, in some part whereof this disease may be *endemic*, for the barbarous custom of exchanging the natives with the *Europeans* for merchandise prevails in many places upon the borders of *Guinea*. However this be, this contagious distemper, spreading by degrees, so infected these parts, that if it had proceeded with the same rapidity wherewith it began, it would in a few ages have destroyed mankind, or at least have made the world an hospital, and rendered its inhabitants entirely unfit for the discharge of every social duty. But like vegetables, being transplanted from its native place to a foreign climate, it flourishes less in *Europe*, languishes daily, and its symptoms grow gradually milder. For at the first appearance thereof, when a person was seized with it, it quickly infected the whole mass of blood, occasioning violent pains of the head and limbs, and discovered itself by ulcers in various parts. But it is a hundred years since it first manifested itself by a kind of virulent *gonorrhœa*, which sort of appearance it yet retains, endeavouring to go off by this discharge; and it is attended with no other apparent

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symptom, except in some few persons, who are seized in the beginning with a small ulcer of the *pudenda*, commonly called a *shanker*, the virulence whereof, not being expellable by a *gonorrhœa*, immediately infects the blood.

This disease is propagated, either (1) by generation, whence it is communicated to the infant by one of the infected parents; or (2) by touching some soft part, by means whereof the virulence and inflammation are communicated to the body, in the following manner: as (1) by sucking; thus the child may infect the nurse by the fine pores of the nipples of the breast; or the nurse the child by its tender mouth. (2) Children may gain the disease by lying in bed with infected persons. For though grown persons, whose flesh grows firmer with age, can scarce be infected by this means without impure coition, yet the flesh of children being of a softer and finer texture easily admits the infection; which I have known got by lying in bed with infected parents. (3) The touching of a soft part, especially in impure coition, which is the most usual way of gaining the disease; for the *penis* being turgid with spirits designed for generation, readily imbibes the infection, from a venereal ulcer, or pustule in the *vagina*; both which lying hid in the body, the woman may nevertheless seem to be sound; the venom being so detained by the moisture of these parts as to infect the blood very slowly, or, which oftener happens, being diluted, or in part expelled, by the menstrual purgations.

This infection, in my opinion, first attacks the fleshy substance of the *penis*, which it corrupts, first occasioning an inflammation, and afterwards, by degrees, an ulcer, from which the matter, that appears in a gonorrhœa, distils slowly into the *urethra*. I am inclined to believe this is the case, because I have seen such a virulent matter ooze from the porous substance of the *glans*, and not discharged from the *urethra*, and there has been no ulcer either in the *prepuce* or *glans*. But at length penetrating deeper, it usually occasions an ill-conditioned ulcer of the *prostate*, which is frequently found in the bodies of such as perish by this disease.

This disease proceeds in the following manner. The patient, sooner or later (according as the woman with whom he has lain was more or less infected, and according as his constitution renders him more or less disposed to receive the infection) is

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first seized with an uncommon pain in the parts of generation, and a kind of rotation of the testicles; and afterwards, unless the patient be circumcised, a spot, resembling the measles in size and colour, seizes some part of the *glans*, soon after which, a fluid like *semen* flows gently from it; which differing every day therefrom, both in colour and consistence, does at length turn yellow, but not so deep as the yolk of an egg; and when this disease is more virulent and severe, becomes green, and is mixed also with an aqueous humour, copiously streaked with blood. At length the pustule or spot terminates in an ulcer, at first resembling the *aphtha* in the mouths of children, which spreads and eats deeper every day, and the lips grow callous and hard. But it must be observed that this pustule is seldom attended with a *gonorrhœa* in those who have formerly had this disorder, or whose *glans* is bare; the hardness and firmness which this part acquires by being exposed to the air, and the frequent chafing of their linen, rendering it less apt in such persons to receive the infection; and for this reason those that are circumcised seldom have an ulcer of the *glans*, but only a *gonorrhœa*.

The *gonorrhœa*, or running, is soon succeeded by other symptoms: as (1) a great sense of pain upon every erection of the *penis*, as if it were violently squeezed with the hand; this happens chiefly in the night, when the patient begins to be warm in bed, and I esteem this painful constriction of the *penis* the distinguishing sign in this state of the disease. (2) The *penis* likewise bends, occasioned by the contraction of the *frænum*, which being naturally stretched in every erection, causes violent pain. There is likewise a heat of urine, which is scarce perceived in voiding it, but immediately after the patient feels an extreme heat throughout the whole duct of the *urethra*, especially at its termination in the *glans*. And sometimes, the urethra being excoriated by the continual flux of acrimonious matter, nature too hasty in generating new flesh, substitutes a loose, spongy flesh, which growing every day larger and harder, forms *caruncles*, which obstruct the urinary passages, so as at length to hinder the exclusion of the urine; and these caruncles also emit a certain *ichor*, which proceeds from the little ulcers adherent thereto, and greatly hinders the cure, occasioning a tedious disorder more to be apprehended than death itself. Moreover it often happens that the matter which should have been

discharged by the *gonorrhœa* is thrown upon the *scrotum*, either by violent exercise, or the use of astringents, and causes a violent pain and inflammation, with a considerable swelling sometimes of one, and sometimes of both the testicles; the *gonorrhœa* in the meantime proceeding slowly, but the heat of urine remaining equally troublesome. These are the common symptoms of this disease in this state of it.

But when, by the continuance of the disease in those parts, the virulence is communicated to, and by degrees corrupts the blood, or when the juices putrefy from the retention of the virulent matter in the body by the improper use of astringents, the *true pox* arises; in which (1) swellings or buboes, often appear in the groin, and constitute the first degree thereof. (2) Then violent pains seize the head, and the limbs between the joints, as the shoulders, arms and legs, which attack at intervals, and keep no stated order, except that they generally come in the night as soon as the patient is warm in bed, and do not cease till towards morning. (3) Scabs also and scurf of a yellow colour, like a honeycomb, appear in several parts of the body, by which mark they may be distinguished from all others; and sometimes they are very broad, and resemble the leprosy, as it is described in the writings of physicians, and the more this scurf spreads, the easier the patient becomes. All the symptoms increase by degrees and particularly the pain, which at length becomes so intolerable that the patient cannot lie in bed, but is forced to walk about his chamber in a restless manner till morning. Moreover (4) from the severity of the pain, hard nodes, called *exostoses*, grow upon different parts of the skull, and the bones of the legs and arms; which resemble the bony excrescences upon the legs of horses, usually termed the *spavin*: and (5) these bones, from the continual pain and inflammation, do at length grow carious and putrefy. (6) *Phagedenic* ulcers likewise break out in different parts of the body, which generally begin first in the throat, and by degrees spread through the palate to the cartilage of the nose, which they soon consume; so that the nose for want of its support falls flat. (7) The ulcers and pain increasing every day, the patient, wasted partly by the continued pain and partly by the ulcers and corruption, leads a life far worse than any kind of death, through the stench, corruption and shame attending it, till at length his limbs rot away

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one after another, and the mangled, breathless carcase, being odious to the living, is consigned to the grave.

As to what is termed the intrinsic and *essential* nature of this disease, I am as ignorant of it, except as it appears from the symptoms just enumerated, as of the essence of any plant or animal. But be this as it will, I am persuaded that the humour occasioning this disease is of a very inflammatory nature, and ought to be evacuated by such means as experience shows to be most effectual; no immediate specific being yet discovered whereby it may be cured without any preceding evacuation. For neither *mercury*, nor the *drying woods* are to be accounted specifics, unless it can be proved by examples that *mercury* has sometimes cured the *venereal disease* without a salivation, or a *decoction of the woods* without a sweat. Now having learnt by experience that the common sudorifics have been as effectual here as a decoction of the woods, so I doubt not that if a remedy could be found, either in the vegetable or animal kingdom, of equal efficacy with mercury in raising a salivation, it would have the same effect in curing the *venereal disease*. But as this disease, when it is only a *gonorrhœa*, differs considerably from that which hath infected the whole mass of blood, and justly deserves to be entitled the *lues venerea*, so it requires a different kind of evacuation from that which is necessary in a confirmed *pox*.

With respect therefore to a *gonorrhœa*, of which we first treat, the whole of the cure, as far as we have yet experienced, turns upon purging medicines; by means whereof the peccant matter is either evacuated, or the natural juices of the body drained off, which would otherwise feed the disease. But though both reason and experience intimate that it may be cured by any cathartic, provided it be frequently repeated, and continued for a considerable time; yet such strong purgatives, as powerfully evacuate bilious, but especially watery humours, seem best for this purpose, and therefore I have sometimes recovered persons in low circumstances by *jalap root* only.

* * * * *

But if the distemper be got to such a height as to be justly entitled the *venereal disease* or a *confirmed pox*, the procedure must be different from that above delivered; for the cure being more difficult demands more powerful remedies; and in reality

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not an instance can be produced, as far as I know, where this disease hath been cured unless by a salivation with *mercury*; notwithstanding what has been hastily advanced by some learned as well as illiterate persons to the contrary. Since therefore a salivation answers every purpose here, I need do nothing more than set down what I have learnt from reason and observation concerning the raising and carrying it on.

And first I cannot even conjecture what some physicians mean by their frequent cautions about preparing the body duly by cathartics, digestive medicines, bathing and the like; not to mention bleeding, which some esteem the principal thing. For if we speak frankly, the whole of the question is reducible to this, viz., that since a salivation must be procured by a poison (for we have not hitherto discovered a safe and innocent medicine productive of this effect, and the disease cannot be cured without it) whether it is better to make use of it, when the body is in full strength and spirits, and consequently more able to bear it, or after it has been debilitated by bleeding and low diet? Doubtless every judicious person would think it better to do nothing at all than to do mischief by such unseasonable attempts. Besides it is manifest from experience that a salivation is better borne by those who have not been debilitated by evacuations, or any other way, than by such as have been weakened before entering upon the course.

Omitting therefore this mischievous preparation, as soon as I am called I prescribe the following ointment:—

Take of hogs' lard, two ounces; quicksilver, an ounce: mix them together.

I add no sort of hot oil, or anything else to it; because the ointment is made worse by all such additions as check its operation, and no better if they no way improve it; and perhaps those ingredients which are added under the title of *correctors*, do the same here (if they act at all) as experience shows such things ordinarily do when they are joined with cathartics, viz., occasion gripings, and render their operation more difficult, from the ensuing struggle between the antidote and the purgative, all the virtue of which latter consists in being opposite to nature. I therefore order the patient to anoint his arms, thighs and legs with his own hand, with a third part of the above-mentioned

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ointment for three nights running, with care not to touch his armpits and groin; and the *abdomen* must be well defended from the ointment, by wrapping a piece of flannel round it, and fastening it behind. After the third unction the gums generally swell, and the salivation rises; but if it does not appear in three days after the last unction, eight grains of *turbith mineral* may be given in a little *conserve of roses*, and after every evacuation, either upwards or downwards, let him take a draught of warm posset-drink. When the salivation begins, the physician must attend with great exactness to the degree thereof, lest by inconsiderately using too many medicines it be raised so high as to endanger the life of the patient. When it is got to a proper height, in which state the spitting generally amounts to two quarts in the space of twenty-four hours; or if the symptoms go off, though the spitting be not so much, which generally happens in four days after it comes to the height, it will be necessary to change his linen and his sheets, for others that have been worn some time since they were washed; because those he lies in, being fouled with the ointment, are apt to increase and keep up the salivation beyond the due time. But if the salivation abates before the symptoms vanish, it must be heightened by exhibiting a scruple of *mercurius dulcis*, at a time, occasionally.

Sometimes it happens, especially in such as are easily moved by purgatives, after the first or second unction (*viz.*, as soon as the mercury begins to affect the blood) that nature endeavours to throw it off by the intestines, whence not only mucous stools and gripings proceed, as in a dysentery, but the cure of the disease is hindered thereby, which is used to yield only to salivation. In this case, mercury must be entirely refrained both externally and internally, till these symptoms are quite gone off; and the purging likewise, which generally happens before the salivation rises well, must be stopped by *liquid laudanum*, increasing the dose and repeating it according to the urgency of the symptoms; or a dram and a half of *diascordium* must be given between whiles, occasionally. Upon the stoppage of the looseness, the salivation, which scarcely appeared before, usually goes on in a proper manner.

When the patient appears to be recovering in all other respects, only his mouth continuing ulcerated (which is the genuine effect of a salivation), the spitting, which abates now every day,

must not be checked by purging or any other method; for possibly after the pain is gone off, and the ulcers are dried up, a part of the morbid matter may remain in the habit and occasion fresh disturbance, unless that moderate spitting be permitted, which will cease as soon as the patient, after his recovery, hath been a few times in the air. For this reason I esteem it dangerous to carry off the remains of the salivation, which is just upon ceasing spontaneously, either by *purging* or by drying it up with a *decoction of the woods*; which methods, though commonly used under pretence of expelling the mercury out of the body, or correcting its malignity, do, without doubt, occasion the frequent relapses that happen in those unfortunate persons, who after all their pains and expense, earnestly long for health, and had certainly obtained it, if the salivation had been suffered to terminate spontaneously. It would therefore be more advisable to promote it, by exhibiting *mercurius dulcis* once a week, after the patient is entirely recovered and goes abroad (which I have sometimes ordered to be done for some months) than to check it too soon.

But though I do not like purging at the declension of the salivation, for the above-mentioned reasons, it may, nevertheless, be indispensably necessary at the height; that is, when it hath been so far raised, by wrong management, as to endanger life, in which case it is not only safe but requisite to lower it by a purge, to such a degree as suits the strength of the patient, after which it is to be left to itself.

If it be demanded, whether we should be satisfied with salivation only, without having recourse to cathartics, or any other medicines, which are usually administered after it is over; I reply, that besides what has been just mentioned (which reason and experience confirm) I would fain know how it comes to be more necessary to purge after a salivation, than to salivate after purging; since purgatives, especially *scammony* and such acrid cathartics, leave some remains of malignity behind them in the body, which notwithstanding we leave to nature, whereby at length they are overcome, namely, upon the patient's returning to his usual manner of living, exercise and the free use of the air. Again, I should be glad to know why we try to expel the remains of the mercury by cathartics, whilst we not only neglect, but check the salivation, which is the genuine and almost the

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sole method whereby nature ordinarily does and should effect it? But such errors are to be ascribed to our limited capacity, which hinders our coming at the truth, that lies too far out of our reach, so that we take up with specious appearances instead of realities; and afterwards strengthen our groundless prejudices to that degree by conversation that at length we are for imposing our idle notions for demonstrations, which, in my opinion, is manifest in the instance under consideration.

But though most persons may be cured by the above-mentioned method, it must however be carefully noted that some are possessed of such an *idiosyncrasy*, or peculiarity of constitution, both in respect of salivation and purging (such as are not easily moved by cathartics, being likewise hard to salivate) that it will scarce cause an ulceration of the gums, much less raise a degree of sputation adequate to the disease. In these cases, therefore, the physician must above all things beware of obstinately and unseasonably endeavouring to raise a salivation whilst nature resists, and will by no means bear such an evacuation; for want of understanding which matter rightly some have destroyed abundance of persons. For in such constitutions the persisting obstinately in the use either of external or internal medicines for this purpose, instead of answering the end, occasions gripings and bloody stools; nature endeavouring to carry off the poison of the mercury this way; or else a pain of the stomach, sickness, cold sweats and other terrifying symptoms ensue, so that the patient is brought to death's door and perhaps killed thereby.

In such cases, therefore, though the physician may repeat the unction, and the *turbith mineral* again, when the salivation does not rise in four or five days after the last unction (interposing some days between each unction), yet it greatly behoves him not to be so resolutely bent to raise a salivation, as to continue to force it in spite of nature. In my opinion therefore this method is to be followed: as soon as a sickness at stomach, or gripings succeed, medicines must be immediately refrained till these symptoms are quite gone off; for by the frequent repetition of many powerful medicines to raise a flux, when nature opposes it, a dysentery will certainly follow the gripings, and the sickness at stomach terminate in death. Whereas, on the contrary, by going on gently and taking time, exhibiting, for instance, a scruple of *mercurius dulcis* once or twice a week, alone, or with

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a dram of *disascordium*, in case of a tendency to a looseness, a cure will be obtained. For though the salivation does never rise to the height, yet an extraordinary sputation will be occasioned, accompanied with a fœtid smell, which is the concomitant of a genuine salivation, whence it is manifest that the blood and juices have undergone that peculiar putrefaction, or alteration, whatever it be, which either causes, or proceeds from a salivation. By this method all the symptoms of the disease will be conquered, provided it be continued a proper time.

It must however be observed, that though a salivation excels every other remedy in curing a *confirmed pox*, yet it is not able to conquer a *gonorrhœa*, when joined therewith, for this disorder continues after the former is perfectly cured; so that from hence it is reasonable to conclude that *mercury* is possessed of no specific virtue *immediately* curative of the *pox*, though perhaps it may be entitled a specific *mediately*, inasmuch as it cures the disease by the help of a salivation, which however is almost as absurd as to term a lancet a specific for the pleurisy.

But to resume our subject; when the *pox* and a *gonorrhœa* meet in the same person, the cure of the latter is to be attempted either before or after the salivation, though, in my opinion, it is effected with more safety and ease after the flux is over; for being joined with the *pox* it yields with greater difficulty, but having been in some measure conquered by the preceding salivation, it is ordinarily cured with less trouble: purging, however, must absolutely be refrained as long as the salivation continues in the smallest degree. Upon this account, therefore, the cure is more safely conducted by giving a dose of *turbith mineral*, once or twice a week, than by any other purgatives, as it will in some measure promote the flux, whilst the matter productive of the *gonorrhœa* will, in the meantime, be gradually carried off.

It must likewise be noted, that if there be a tumour, usually termed an *exostosis*, upon some bone, which has been of so long standing as to render it carious, it will be in vain to attempt the cure of the disease by a salivation, or any other method, unless care be also had to remedy this accident. And therefore the bone must be laid bare by applying a *caustic* to it, and its *exfoliation* promoted, by medicines adapted to this end.

If the *ulceration of the mouth*, which generally accompanies a salivation, be so exceeding painful, or the mouth so excoriated

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as to bleed continually, it must be often gargarized with *rose-water, milk and water*, or a decoction of *barley, marsh-mallow roots* and *quince seeds*. This is the only symptom I know of that is worth notice in a salivation, when it is conducted in a proper manner; and in reality if the pain and ulceration of the mouth could be any way prevented, this disease would be as easily cured as some others are, of which much less notice is taken.

As to the diet and other regimen, I conceive they ought to be the same in a salivation, at least till it declines, with those which are directed in a course of purging. For as when a person hath taken a purge, he need only keep himself warm in his room, and eat sparingly of easily digestible food; so I can see no reason why a person in a salivation should be kept constantly in bed, and forbid a slender diet, which may strengthen nature, struggling with the poison. For numbers have been destroyed, by their strength and spirits being totally exhausted, by sweating, purging and needless abstinence, besides the mischief caused by the mercury; and frequently also, after the disease is gone off, the patient, not having sufficient spirits left to recover, sinks through debility, or if he escapes, it is with so much difficulty and pain, that life is not worth the purchase.

And here it is easy to refute the objection, why some that undergo so much, in that state of the disease which we have just mentioned, are obliged to go to *France* to be cured. The reason of this I take to be, that in such persons the constitution is broken and their strength exhausted, so that our thick and moist air hinders their recovery; whereas the air of the *French* climate, which is more healthy and clear, is suited to restore their strength and spirits; and not that the physicians of that nation, however learned they may be, have a better method of curing the disease than those of our own country. But to return to the regimen.

I am therefore of opinion, and experience confirms it, that besides water-gruel, panada, posset-drink, warm small beer, &c., veal and chicken broth and the like may and ought to be allowed in a moderate quantity; and that as soon as the swelling of the gums is so much abated that the teeth can be closed, rabbits, pullets, lamb and such light meats may be permitted sparingly, and the patient may likewise sit by the fire, or lie in bed, as he likes best; for as the cure of this disease is to be effected by a

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salivation and not by sweating, I see no reason for overheating the patient unnecessarily.

This method is not only more expeditious, as not requiring so many days to be fruitlessly spent in preparing the body before salivation, nor such frequent purgation, nor the common decoctions, after the salivation is over; but I am well assured it is also easier and safer, and more preventive of a relapse; which any person who has followed the other method will experience upon making trial of this. At least it has succeeded with me in several patients, some whereof had already gone through more than one salivation ineffectually, having always relapsed from the causes above enumerated.

To conclude, I need not use many words, worthy Sir, to gain your esteem, who have long been convinced of my probity, and vouchsafed to advance my reputation. I will therefore say nothing more of this disease, for it never was or will be a pleasure to me to perplex matters by a prolix and intricate style. Be pleased then to accept this short performance, how inconsiderable soever it be, either in value or bulk; because I wrote it principally for the public good, and to testify my regard for you; which, great as it is, is yet less than you merit, both from me and all those who are no strangers to your great learning, affability, candour and other laudable virtues. And indeed I do not flatter you, when I assure you, that since I was first honoured with your friendship I have always set the highest value on it. For amongst the observations I have made during the short period of my life this is well worth notice, and what I would likewise particularly recommend to my son, namely, that an acquaintance with men of eminent probity and virtue hath always been of service to me; whereas, contrariwise, an intercourse with vicious men (if such a friendship, as is not founded on virtue, does not rather deserve to be styled a combination or conspiracy), though they never injured me by their words or looks, hath at last, by I know not what means, sometimes proved prejudicial to me or my affairs. Adieu, dear Sir, continue your friendship to

Your most obedient servant,

THO. SYDENHAM.

EPISTOLARY DISSERTATION.

This was addressed to Dr. William Cole of Worcester in January 1681-82, who had written to Sydenham asking for some further information upon the treatment of small-pox and for his views upon hysterical diseases. The portion on Small-pox is omitted here because Sydenham's résumé of the subject given in the *Processus Integri* is quoted later. The portion dealing with the diagnosis of hysteria is given, but the paragraphs on its treatment are also omitted here for want of space. The clear recognition of hysteria as a special form of disease, manifold in its types, has been regarded as one of Sydenham's most original contributions to clinical medicine. He says that hysteria is one of the commonest of all chronic diseases, indeed that women are rarely free from it, except such of them as lead a hardy and robust life. Men also, though to a less extent, and especially men who lead a studious life, are in his opinion prone to the same disease though in them it is called hypochondriasis. The symptoms he attributes to a disturbance of the "animal spirits," which descend irregularly upon various parts and organs of the body, exciting pain and spasm. Now if for his term "animal spirits," we substitute the modern "nervous energy" or "psychic influence" and if for his terms "hysteria" and "hypochondriasis" we substitute the modern "neurasthenia," the whole treatise takes on a present day colour and is seen to be replete with shrewd practical suggestions for diagnosis and treatment. Among the curative remedies upon which he lays most stress are chalybeates, substances with foetid exhalations like castor, galbanum, myrrh, Peruvian bark as a tonic, Venice treacle, above all, exercise in the open air such as on horseback, and strengthening diet.

EPISTOLARY DISSERTATION

TO

DR. WILLIAM COLE

ON

RECENT OBSERVATIONS UPON THE CURE OF CONFLUENT SMALL-POX AND ON THE HYSTERICAL AFFECTIONS.

* * * * *

I PROCEED now, in compliance with your request, to communicate the observations I have hitherto made concerning *hysteric disorders*, which I own are neither so easily discoverable nor so readily curable as other diseases. However, I will endeavour to acquit myself herein to the best of my ability, and with that brevity which the compass of a letter requires; which in reality I am obliged to on account of my ill-health, particularly at this season of the year, when too intense application would immediately bring on a fit of the gout. For this reason I shall avoid prolixity, and proceed accordingly to my usual method, which consists (1) in giving a short history of the disease, according to its genuine natural phenomena; and (2) subjoining the method of cure which hath succeeded best with me, and which I formerly learnt rather from my own experience than from reading.

It should seem that no chronic disease occurs so frequently as this; and that, as fevers with their attendants constitute two-thirds of the diseases to which mankind are liable, upon comparing them with the whole tribe of chronic distempers, so hysteric disorders, or at least such as are so called, make up half the remaining third part; that is, they constitute one moiety of chronic distempers. For few women (which sex makes one-half of the grown persons), excepting such as work and fare hardly, are quite free from every species of this disorder, and several men also, who lead a sedentary life, and study hard, are afflicted with the same. And though the symptoms arising from hysteric diseases were, by the antients, supposed to proceed from some

Dr
 Major Hale
 Decem^r 17th 89

or purging of diverting the Effluvia but most especially remedy, viz of Goat. I am Sr

some with Auriferous ferrous
 Chlo. Sydenham.

Though I am perfectly Satisfy'd that your Case is on-
 ly that which in men we call Hypochondriacal, in wo-
 men Hystorical, proceeding from an Ataxy or Shattered-
 ness of y^e Animal Spirits, & accordingly what^r Course of
 stool was a very proper means for you to have bin
 put under yet in regard it hath miss'd of y^t success
 which with great reason might have bin expected, I
 thinke it will be to noe purpose to haue y^t stool
 any longer at least after you have taken out the
 Pills you have already by you. But 'twill be more
 adviseable for you for two or three weekes totally
 to abstain from medicines of all kinds for these two rea-
 sons. first for that you have suffer'd from Dr Eeles
 or my selfe charged your body already with many
 medicines soe y^t a little rest from them may be very
 convenient for you. And then for that I have often
 observ'd that medicines have not had their due ef-
 fect whilst they have bin taking but upon disconti-
 nuance the benefit wch they have done hath bin
 manifest. But in Cases upon tryal for some little time
 you shall find your symptoms still pressing. I doe earnestly
 intreat you yf you will use a remedy which I know
 you have a prejudice against and which if you had
 not however you may thinke not at all indicated in
 your Case and that is y^e Peruvian Bark. I doe truly
 affirm to you that as it is as wholesome and innocent as y^e
 bread that you daily eat; soe I have seen it succeed
 in such Cases as yours were neither Antiscorbutick or
 stool have effected any thing. If you shall thinke fit to
 use this remedy be pleas'd to give me notice thereof
 and I shall give order to Mr Mathews to furnish you
 with that which I can depend upon & shall like wise
 instruct you how to use it. Be pleas'd to present my most
 humble service to your Lady, and for your selfe I could
 heartily wish instead of a merry Christmas yf you might
 have a smart fit of y^e Goat which would quickly
 dissipate your other fears & those symptoms which if I
 mistake not doe naturally desire a discharge upon y^e Arteries
 & therefore amongst all Vomittings yf you may be put upon
 at any time I doe advise you to beware of bleeding.

Letter from Sydenham to Major Hale.
 See Appendix for transcription.

EPISTOLARY DISSERTATION

disorder in the *womb*, yet upon comparing hypochondriac complaints, which we judge to arise from obstructions of the spleen and other *viscera*, with those symptoms which seize hysteric women, we find a great similitude between them. But it must be owned that women are oftener attacked with these disorders than men; not indeed because the *womb* is more indisposed than any other part of the body, but for reasons hereafter to be explained.

This disease is not more remarkable for its frequency than for the numerous forms under which it appears, resembling most of the distempers wherewith mankind are afflicted. For in whatever part of the body it be seated, it immediately produces such symptoms as are peculiar thereto; so that unless the physician be a person of judgment and penetration, he will be mistaken, and suppose such symptoms to arise from some essential disease of this or that particular part, and not from the *hysteric passion*.

To exemplify this remark. Sometimes it attacks the head, and causes an *apoplexy*, which also terminates in an *hemiplegia*; exactly resembling that kind of *apoplexy* which proves fatal to some aged and corpulent persons, and arises from an obstruction and compression of the nerves, occasioned by a copious phlegm contained in the cortical part of the brain. But the *apoplexy* in hysteric women seems to proceed from a very different cause, for it seizes them frequently after a difficult delivery attended with a great loss of blood, or proceeds from some violent commotion of mind.

Sometimes it causes terrible convulsions much like the *epilepsy*, along with a rising of the *abdomen* and *viscera* towards the throat, and such strong convulsive motions that though the patient be otherwise rather weak, she can scarce be held by the attendants. And she talks wildly and unintelligibly, and beats her breast. This species of the disease, which is commonly entitled the *strangulation of the womb*, or *fits of the mother*, happens most frequently to such women as are of a very sanguine and robust constitution.

Sometimes this disease attacks the external parts of the head, between the pericranium and the cranium, and occasions violent pain, which continues fixed in one place, not exceeding the breadth of the thumb, and it is likewise accompanied by very

violent vomiting. I call this species the *clavus hystericus*, which chiefly affects such as have the *green-sickness*.

Sometimes it seizes the vital parts, and causes so violent a *palpitation of the heart* that the patient is persuaded those about her must needs hear the heart strike against the ribs. Slender and weakly women, that seem consumptive, and girls that have the *green-sickness*, are chiefly subject to this species.

Sometimes it affects the lungs, causing an almost perpetual *dry cough*; and though it does not shake the breast so violently, yet the fits are more frequent, and the patient's senses are also disordered. But this species of the *hysteric cough* is very rare, and chiefly happens to women of phlegmatic constitution.

Sometimes attacking the parts beneath the *scrobiculum-cordis* in a violent manner, it occasions extreme pain, like the *iliac passion*; and is attended with a copious vomiting of a certain green matter, nearly resembling what is usually called *porraceous bile*, and sometimes the matter is of an uncommon colour. And frequently after the pain and vomiting have continued several days, and greatly debilitated the patient, the fit is at length terminated by a universal *jaundice*. Moreover, the patient is so highly terrified as to despair of recovering; and, as far as I have observed, this dejection or despondency as certainly accompanies this species of the hysteric passion, as either the pains or vomiting above mentioned. This kind chiefly attacks women of a lax texture of body, or those who have suffered greatly by being delivered of large children.

Sometimes this disease seizes one of the kidneys, where by the violent pain it occasions, it entirely resembles a *fit of the stone*, not only with respect to the kind of pain and the part affected, but likewise by the violent vomiting wherewith it is accompanied, and the pain's extending through the whole duct of the *ureter*: So that it is hard to distinguish whether the symptoms arise from the stone or from an hysteric disorder; unless, perhaps, the woman's spirit having been depressed by some misfortune a little before the disorder came on, or a discharge of green matter by vomit, should show that the symptoms are rather to be ascribed to an hysteric disorder than the stone. The bladder is also occasionally affected with this delusory symptom, which not only causes pain but a suppression of urine, as if there was a stone, though there is none. This last species rarely

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happens, but the former more frequently. Both are accustomed to attack such women as are greatly debilitated by frequent hysteric fits and in a bad state of health.

Sometimes seizing the stomach, it causes continual *vomiting*; and sometimes fixing in the intestines, occasions a *purgings*; but both these symptoms are without pain, though the above-mentioned green humour frequently appears in both. Such also as have been weakened by frequent hysteric fits are chiefly subject to both these species.

Moreover, as this disease affects most of the internal parts, so likewise it sometimes attacks the external parts and muscular flesh, sometimes causing pain, and sometimes a tumour in the *FAUCES*, *shoulders*, *hands*, *thighs* and *legs*, in which kind the swelling which distends the legs is most remarkable. For whereas in dropsical swellings these two particulars may always be observed, namely: (1) they increase towards night; and (2) pit for some time after being pressed by the finger; in this tumour the swelling is largest in the morning, and does not yield to the finger or leave any mark behind it, and it generally only swells one of the legs. In other respects, if the magnitude and surface of it be observed, it differs so little from dropsical tumours that the patient can scarce be persuaded to think it otherwise.

The *teeth* also (which one would scarce believe) are subject to this disease; though free from the least cavity, and manifest defluxion that might cause pain, which nevertheless is not at all milder, of shorter continuance, or more easily curable. But the pains and swellings which affect the external parts chiefly happen to such women as are almost worn out by the long continuance and violence of hysteric fits.

But the most frequent of all the tormenting symptoms of this disease is *a pain of the back*, which generally accompanies even the slightest degree of it. The above-mentioned pains likewise have this effect in common, that the part they affect cannot bear the touch after they have gone off, but remains tender and painful as if it had been severely beaten; but this tenderness wears off by degrees.

It is likewise well worth noting that all these symptoms are preceded by a remarkable *coldness of the external parts*, which seldom goes off before the fit ceases. And I have observed that

this coldness resembles that which is perceived in dead bodies, the pulse, notwithstanding, continuing regular. Whereto may be added that most of the hysteric women that I have hitherto treated have complained of a *lowness*, and (to use their expression) a *sinking of the spirits*; which, by their pointing to the region of the lungs to show the part affected, seemed to be seated there. Lastly, it is generally known that hysteric women sometimes *laugh* and sometimes *cry* excessively without the least apparent provocation.

But amongst the symptoms accompanying this disease the most peculiar and general one is the making great quantities of urine as clear as rock water; which, upon diligent inquiry, I find to be the distinguishing sign of those disorders which we call *hypochondriac* in men and *hysteric* in women. And I have sometimes observed in men that soon after having made urine of an amber colour being suddenly seized with some extraordinary disturbance of mind, they have made a large quantity of clear water with a continued violent stream, and remained indisposed till the urine came to its former colour, when the fit went off. Moreover in *hysteric* and *hypochondriac* subjects, when the disease has been of long standing, they have *fætid*, and sometimes highly *acid eructations* after eating, though they eat moderately, according to the appetite; the digestive faculty being greatly impaired and the juices vitiated.

But their unhappiness does not only proceed from a great indisposition of body, for the *mind* is still more disordered, it being the nature of this disease to be attended with an incurable *despair*; so that they cannot bear with patience to be told that there is any hopes at all of their recovery, easily imagining that they are liable to all the miseries that can befall mankind, and presaging the worst evils to themselves. Upon the least occasion also they indulge terror, anger, jealousy, distrust, and other hateful passions; and abhor joy and hope and cheerfulness, which, if they accidentally arise, as they seldom do, quickly fly away, and yet disturb the mind as much as the depressing passions do; so that they observe no meaning in anything, and are constant only to inconstancy. They love the same persons extravagantly at one time, and soon after hate them without a cause; this instant they propose doing one thing, and the next change their mind, and enter upon something contrary to it but

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without finishing it; so unsettled is their mind that they are never at rest. What the *Roman* orator asserts of the superstitious agrees exactly with these melancholic persons. *Sleep seems to be a relief from labour and inquietude, but from this many cares and fears arise*; their dreams being ever accompanied with the representation of the funerals and apparitions of their departed friends. And so much are they distempered in body and mind that it seems as if this life were a purgatory to expiate offences committed in a pre-existent state. Nor is this the case only in furious maniacs, but even in those who, excepting these violent passions, are judicious persons, and for profoundness of thought and solidity of speech greatly excel those whose whole minds were never disturbed by these tormenting thoughts. So that the observation of *Aristotle* is just, who asserts that *melancholy persons are the most ingenious*.

But this very dreadful state of mind, which I have mentioned above, only attacks such as have been much and long afflicted with this disease, and are at length overcome thereby; especially if misfortunes, grief, care, hard study and the like, along with an ill-habit of body, have contributed thereto.

It would take up too much time to enumerate all the symptoms belonging to hysteric diseases, so much do they vary and differ from each other. *Democritus*, therefore, in writing to *Hippocrates*, seems to have had reason to assert, though he mistook the cause of the disease, *that the womb was the origin of six hundred evils and innumerable calamities*. Nor do they differ so greatly, but are so irregular likewise that they cannot be comprehended under any uniform appearance, as is usual in other diseases; but are a kind of disorderly train of symptoms, so that it is a difficult task to write the history of this disease.

The procatarctic or external causes thereof are either violent motions of the body or, more frequently, some great commotion of mind, occasioned by some sudden fit either of anger, grief, terror or the like passions. Upon this account, whenever I am consulted by women concerning any particular disorder which cannot be accounted for on the common principles of investigating diseases, I always inquire whether they are not chiefly attacked with it after fretting or any disturbance of the mind; and if they acknowledge this, I am well assured that the disease is to be ascribed to the tribe of disorders under consideration,

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especially if the diagnostic appears more evident by a copious evacuation of pale urine at certain times. But to these disturbances of mind, which are the usual causes of this disease, must be added emptiness of stomach, from long fasting, or immoderate evacuations, whether by bleeding too profusely, or giving too strong a vomit or purge.

Having now given a full description of this disease, according to its common symptoms, we are next to consider the *internal efficient causes* thereof, so far as these can be discovered from all the circumstances which we have described taken together. And, in my opinion, disorders which we term hysteric in women and hypochondriac in men arise from *irregular motions of the animal spirits*, whence they are hurried with violence and too copiously to a particular part, occasioning convulsions and pain when they exert their force upon parts of delicate sensation, and destroying the functions of the respective organs which they enter into, and of those also whence they came; both being highly injured by this unequal distribution, which quite perverts the economy of nature.

The origin and *antecedent cause* of these irregular motions of the spirits proceeds from the *weakness* of their *texture*, whether it be natural or adventitious, whence they are easily dissipable upon the least accident and their office perverted. For as the body is composed of parts which are manifest to the senses, so doubtless the mind consists in a regular frame or make of the spirits, which is the object of reason only. And this being so intimately united with the temperament of the body is more or less disordered, according as the constituent parts thereof, given us by nature, are more or less firm. Hence women are more frequently affected with this disease than men, because kind nature has given them a finer and more delicate constitution of body, being designed for an easier life, and the pleasure of men, who were made robust that they might be able to cultivate the earth, hunt and kill wild beasts for food and the like.

But that the irregular motion of the spirits is the cause of this disease is fully manifest from the symptoms just enumerated, I will only mention the principle, beginning with that remarkable one, the *strangulation of the womb*, or *fits of the mother*. In this case the spirits being copiously collected in the lower

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belly and rushing with violence to the *fauces*, occasion convulsions in all the parts through which they pass, puffing up the belly like a ball; which however is only a kind of convulsion of the convulsed parts, that cannot be suppressed without using violent means. The external parts and the flesh in the meantime being in great measure destitute of spirits, which are carried another way, frequently become so cold, both in this and all the other kinds of hysteric disorders, that dead bodies are not colder, whilst the pulse remains in its natural state; this symptom however is not dangerous, unless it be owing to some preceding excessive evacuation.

The same may be said of that violent kind of this disorder, which in outward appearance resembles the *bilious colic*, or *iliac passion*, wherein the patient is afflicted with a very violent pain, in the parts contiguous to the *scrobiculum cordis*, along with a copious discharge of green matter, by vomit; which symptoms proceeds only from a forcible impulse of the spirits stagnating in those parts, occasioning the pain, convulsion, and loss of their functions.

For it is not immediately to be concluded because the discharges upwards and downwards in this disorder, are sometimes *green*, that it is seated in the fluids, or that the violent pain proceeds from the acrimony of some humour vellicating the parts to which it adheres, which for this reason we should esteem the cause of the disease, and therefore judge that it ought to be thoroughly expelled by emetics and cathartics. For it appears that the sickness which seizes those who go to sea, occasioned by the agitation of the animal spirits from the motion of the ship, is attended in healthy subjects with a vomiting of green matter, though but half an hour before no such bile, as we term *porraceous*, existed in the body. Again, do not children in convulsive fits, in which the animal spirits are principally disordered, evacuate a matter of the same colour upwards and downwards? Whereto must be subjoined what is manifest from daily experience, viz., that though such women and children should be thoroughly emptied by repeated purging, yet the greenness would still appear in the discharges upwards and downwards. Moreover the green matter increases upon the frequent use either of emetics or cathartics, because both these evacuations cause a greater disturbance of the animal spirits;

which, I cannot tell how, quite destroys the ferment of those parts, or by the violence of the convulsions forces some juice of a strange nature into the stomach and intestines, which has the properties of tinging the juices of this colour. The chemists, indeed, though they cannot furnish us with better remedies than may be obtained from pharmacy are, however, able to gratify our curiosity by exhibiting two equally clear transparent liquors, which upon mixture immediately become of some deep colour as if there were conjuration in the case. But in reality the consideration of colours is so insignificant and variable that no certainty can be had from them with respect to the nature of those bodies wherein they appear; for it does not more necessarily follow that whatever is of a green colour is acrid than that all acrid things are green. Upon the whole it is apparent that the violent pain, which almost destroys such as are seized with the hysteric colic, and the evacuation of the green matter, proceed entirely from the violent rushing of the spirits to the parts beneath the *Scrobiculum cordis*, and contracting them by convulsions.

To this irregular motion of the spirits the *clavus hystericus* is to be ascribed, in which all the spirits are collected in a certain point of the pericranium, occasioning such a kind of pain as if a nail were driven into the head, and attended with a copious discharge of green matter by vomit. And this contraction of all the spirits into a kind of point differs little from the collection of the rays of the sun by a burning-glass, for as these burn by their united force, so those for the same reason cause a pain by tearing the membranes with united violence.

And from the same inordinate motion of the spirits, which disturbs the mixture of the blood, arises the voiding of a *copious* clear *urine*, which is a frequent symptom in hysteric and hypochondriac disorders; for, when the due circulation of the blood is often disturbed, the *serum* is hurried to the urinary passages before it has remained long enough in the body to be impregnated with those saline particles that render it of a straw-colour. We have frequent instances of this in those who drink too freely, especially of thin and attenuating liquors, whose urine immediately becomes transparent thereupon, in which case the blood being stocked with an over-proportion of *serum*, which it cannot

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retain, discharges it quite clear and not yet coloured by the juices, by reason of its too short stay in the body.

Three years since a nobleman sent for me who seemed to be afflicted with an *hypochondriac colic*, differing little from an *iliac passion*, attended with pain and immoderate vomitings, which he had long laboured under, so that he was in a manner worn out. During the whole course of the disease, whenever he was worst, I observed that he always voided a clear colourless urine, but upon the abatement of the disorder it inclined to its natural straw-colour. Visiting him one day I found his urine, that was made at three several times and kept apart, of a straw-colour, and he was very cheerful, had an appetite, and thought of eating something of easy digestion; but some person coming in that instant, and putting him into a violent passion, he immediately thereupon made a large quantity of very clear water.

Possibly the spitting, which is so common a symptom in hysteric subjects, arises from the spirits, disturbing the mixture of the blood; they spit a thin saliva for many weeks, as if it were produced by mercurial unction; for during this commotion of the blood, which renders it unfit to perform the excretions in the natural way, the serum accidentally taking this contrary course is not discharged by the kidneys according to the laws of nature, but derived to the glands from the extremities of the arteries, and empties itself by the salival ducts in the form of saliva. The same may be said of those profuse night sweats which sometimes seize hysteric women and proceed only from the ill state of the serum of the blood, which disposes it to be thrown on the habit, from the irregular motion of the blood just mentioned.

It is manifest also that the *coldness* of the external parts, which often happens in hysteric disorders, arises from the spirits forsaking their station and crowding too much to some particular part; and doubtless both the *crying* and *laughing* fits, which frequently affect hysteric women without any provocation, are caused by the violent action of the animal spirits upon the organs which perform these animal functions.

And, by the way, I must observe that men are sometimes subject to such *crying fits*, though rarely. I was called not long since to an ingenious gentleman who had recovered of a fever

but a few days before; he employed another physician, who had blooded and purged him thrice, and forbid him the use of flesh. When I came, and found him up, and heard him talk sensibly on some subjects, I asked why I was sent for; to which one of his friends replied, If I would have a little patience I should be satisfied. Accordingly, sitting down, and entering into discourse with the patient, I immediately perceived that his under lip was thrust outward and in frequent motion (as it happens to fretful children, who pout before they cry), which was succeeded by the most violent fit of crying I have ever seen, attended with deep and almost convulsive sighs; but it soon went off. I conceived that this disorder proceeded from an irregular motion of the spirits, occasioned in part by the long continuance of the disease, and partly by the evacuations that were required in order to the cure; partly also by emptiness, and the abstinence from flesh, which the physician had ordered to be continued for some days after his recovery to prevent a relapse. I maintained that he was in no danger of a fever, and that his disorder proceeded wholly from emptiness, and therefore ordered him a roast chicken for dinner, and advised him to drink wine moderately at his meals, which being complied with, and he continuing to eat flesh sparingly, his disorder left him.

To conclude (not to mention the other concomitant symptoms of this disease), the disturbance and variable indisposition of body and mind which prevail in *hysteric* and *hypochondriac* subjects arise from the same *inordinate motion of the spirits*; for such persons not having that firmness of spirits which the robust and those who never want vigorous spirits always possess cannot bear misfortunes, but being soon moved by passion or pain, are as much affected as those whose minds are originally weak, or rendered so by a long train of disorders or their long continuance. For the strength and steadiness of the mind, during its union with the body, chiefly depends on the firmness of the spirits, which are subservient thereto, which are in reality composed of the finest particles of matter, and border upon immaterial or spiritual beings. And as the frame of mind, if I may use the expression, is much more curious and artful than the structure of the body, as consisting in an harmony of the most excellent and almost divine faculties; so if the constitution

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be any way disordered the evil must be so much the greater, the more excellent and delicate the workmanship was whilst it remained entire. And this indeed is the case of those miserable dejected persons we have described, which the positive command of the proudest *Stoic* would not sooner relieve, than the tooth-ache would be prevented by a person's firmly resolving not to suffer his teeth to ache.

SCHEDULA MONITORIA.

The last of Sydenham's works published during his life was *Schedula Monitoria, on the appearance of a New Fever*, addressed to Dr. Charles Goodall in September, 1686. It dealt with a new type of fever that had shown itself in 1685; but the precise nature of the fever is difficult to determine. Some have suggested typhoid fever but as it began in the spring it can hardly be identified with that disease. The facts that it sometimes caused a cough, sometimes affected the bowels, sometimes produced delirium or coma, that it was highly fatal especially to children, and that it left the patient very debilitated, rather suggest the complex which we term influenza.

In the course of this short treatise he gives incidentally the celebrated description of the mild convulsive affection which he had observed in children and which he calls the "chorea of St. Vitus." This is better known as "Sydenham's chorea," for of course it is entirely different from the epidemic form of major hysteria known as St. Vitus's Dance in the Middle Ages. The description is repeated in Sydenham's *Processus Integri*, from which the quotation given below (pp. 150-1) is taken.

There are two appendices to the *Schedula Monitoria*, one on "Putrid Fever following Confluent Small-pox," the other on "Bloody Urine arising from a calculus impacted in the Kidney," which describes Sydenham's own case.

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This, which is known in its English form as the "Complete Methods of curing most diseases" was first published in 1693, four years after Sydenham's death. It consists of an epitome of his works written out by Sydenham for the use of his son. It was delivered to and edited by Dr. S. Monfort. In 1695 appeared a second edition, and in the same year an English translation known as "Dr. Sydenham's Practice of Physick." Many subsequent editions appeared both in England and on the Continent, during the following century. In the second and subsequent editions two small chapters on Phthisis and Gout were added being abstracts from Sydenham's works. The two extracts "Of the Small-pox" and "Of St. Vitus's Dance" form chapters XV and XVI, there being sixty-one chapters in all. The two chapters quoted show Sydenham's methods very well and deal with two subjects especially associated with his name.

PROCESSUS INTEGRI, OR COMPLETE METHODS OF CURING MOST DISEASES.

* * * * *

OF THE SMALL-POX.

THE small-pox is of two kinds: either distinct or confluent. The distinct kind begins with (1) chillness and shivering, (2) great heat, (3) a violent pain of the head and back, (4) vomiting, (5) a considerable tendency to sweat in grown persons, whence it may be conjectured that the small-pox will not prove of the confluent kind; (6) a pain under the *scrobiculum cordis* upon pressing it with the hand, (7) drowsiness and *stupor* sometimes, (8) epileptic convulsions, especially in children which happening after dentition, one may foretell that the small-pox is just approaching; so that, for instance, supposing a child be seized with a convulsive fit over night, a kindly small-pox will appear next morning, and very rarely of the confluent sort.

On the fourth day, inclusive from the beginning of the distemper, sometimes later, but seldom sooner, the eruptions come out, at which time the symptoms abate, or go off entirely. At first reddish pustules, as large as the head of a small pin, appear scattered up and down in the face, neck, breast, and the whole body, and at the same time a pain seizes the *fauces*, and increases proportionably as the eruptions fill.

About the eighth day from the first seizure the spaces between the pustules, that appeared white before, begin to grow red, swell, and are painful; the eyelids are distended so as to close the eyes, and resemble an inflated bladder. Next after the face, the hands and fingers swell, and the eruptions on the face, that till this day were smooth and red, now grow rough and whitish (which is the first sign of suppuration) and discharge a yellow matter, in colour not unlike a honeycomb. The inflammation of the face and hands, being in the meantime come to its height,

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renders the spaces between the eruptions of a florid red colour, resembling that of damask roses; and the milder the small-pox is, the nearer do the eruptions and their intermediate spaces approach this colour. The pustules on the face grow every day rougher and yellower, as they suppurate, while those of the hands and other parts appear smoother and whiter.

On the eleventh day the swelling and inflammation of the face vanish, and the eruption being come to their due maturity and size, equalling that of a large pea, dry and scale off. On the fourteenth or fifteenth day they disappear entirely, but those of the hands being more stubborn, and yet white and fresh, continue a day or two longer, after which they burst; and those of the face and body scale off, and in the face are succeeded by pits or pock-marks.

The patient is either quite costive or hath few stools throughout the whole course of the disease. Most of those whom this distemper kills, die on the *eighth* day in the distinct kind, and on the *eleventh* in the confluent: for when the sweat is promoted in the distinct sort by cordials and a hot regimen, the face, which on the eighth day ought to swell, and be inflamed in the spaces between the eruptions, on the contrary appears whitish and sunk, whilst the pustules notwithstanding continue red and plump, even after the death of the patient. The sweat which flowed freely to this day ceases suddenly, and the patient in the meantime is seized with a delirium, restlessness, sickness, and a frequency of making urine in small quantities, and in a few hours expires.

The confluent small-pox is accompanied with the same symptoms, but they are more violent; the fever, for example, restlessness, sickness, and vomiting, &c., rage more severely, but there is less tendency to sweat than in the distinct kind. Sometimes a looseness precedes, and lasts a day or two after the eruption, which it scarce ever does in the distinct kind. The eruption, in this sort of small-pox, happens on the third day, or earlier, but seldom later, and the sooner the pustules come out, the more they run together. Sometimes, however, the eruption is retarded to the fourth or fifth day by some violent symptom; as, for instance: (1) sharp pain in the loins, resembling a fit of the stone; (2) in the side, like a pleurisy; (3) in the limbs, like a rheumatism; or (4) in the stomach,

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accompanied with great sickness and vomiting. The confluent sort differs from the distinct in this, that the symptoms do not abate immediately after the eruption, but the fever and its concomitants afflict the patient for several days afterwards. Sometimes the pustules come out like an *erysipelas*, and sometimes like the measles; but they may readily be known from both by the time of the eruption. In the progress of the disease the pustules do not come to any considerable bigness, but run together in the face and cover it like a red bladder, and make it swell sooner than in the distinct sort; at last they appear like a white pellicle, closely adhering to the face, and rising a little above the skin.

After the eighth day this pellicle grows every day rougher, and inclines to a brown colour; the skin is tenderer and in the worst sort of the confluent small-pox falls off in large scales, but not till after the twentieth day. It is worth observing, meantime, that the nearer the pustules, as they suppurate, incline to a dark-brown colour, so much the worse they are, and the longer in falling off; but the yellower they are, the less they run together, and the sooner they vanish.

When the pellicle first falls off the face appears smooth, but it is soon succeeded by branny scales of a very corrosive nature, which leave large pits and frequently seams behind them. Sometimes the skin of the back and shoulders scales off. The dangerousness of the disease is to be estimated by the number of the eruptions on the face only. Those of the hands and feet are larger than those of the other parts, and the nearer they approach the trunk the less they are.

In grown persons a salivation, and in children a looseness (though not so certainly) accompanies the confluent kind. The salivation sometimes begins with the eruption, and sometimes not till two or three days afterwards. At first the matter is thin, but on the eleventh day it grows more viscous, and is raised with great difficulty. The patient is thirsty, and is seized with a hoarseness, great *stupor* and drowsiness, coughs between whiles as he drinks, and the liquor flies out at the nostrils. At this time the salivation generally stops, which, if it were not supplied by the swelling of the face, and the swelling of the hands, now manifestly beginning, and lasting longer than the former, would immediately destroy the patient. For though the swelling of the face, according to the nature of the disease, ought to abate a

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little on this day, yet it should not sink entirely till a day or two afterwards. The looseness does not attack children so soon as the salivation does grown persons.

In both kinds of the small-pox the fever rages from the beginning of the illness to the time of the eruption, after which it abates till the suppuration begins, which being finished it goes off. Wrong management occasions abundance of irregular symptoms, as a sinking of the pustules, a *delirium*, a *coma*, purple spots between the eruptions with small black spots on the top of them, depressed in the middle; bloody urine, and spitting of blood in the beginning of the distemper, and a suppression of the urine.

The separation is finished with a febrile ebullition in the first three or four days, and the expulsion is performed during the rest of the time by means of small abscesses in the flesh.

In the mildest sort of the confluent small-pox the *eleventh* day, inclusive from the beginning of the illness, is the most dangerous, and *fourteenth* in the middle sort, and the *seventeenth* day in the worst kind; but sometimes the patient does not die before the *twentieth* day, which however very rarely happens. Moreover a very troublesome fit of restlessness comes on every day towards evening, from the eleventh to the seventeenth day.

Take away nine or ten ounces of blood upon any of the first three days, and afterwards give a vomit of an ounce, or an ounce and a half of *antimonial wine*.

During the first stage of the distemper, that is, till the eruption be over, let the blood be diluted by drinking small-beer often.

As soon as all the pustules are come out, which ordinarily happens on the sixth day from the beginning of the illness, give an ounce of the *syrup of white poppies* every evening till the tenth day; and that night, if the small-pox be of the confluent kind, increase the dose to an ounce and a half, and from this time forward give an ounce every morning, and an ounce and half at night, till the patient recovers.

If the *syrup of poppies* does not agree with the patient, *liquid laudanum* may be exhibited in its stead; for instance, eighteen drops of it for an ounce of the syrup, and twenty-five drops for an ounce and half; observing, in the meantime, if the

opiate fails to quiet the tumult (as it frequently does at the declension of the most confluent small-pox) to give it every eighth hour, or oftener if there be occasion.

But in the distinct small-pox the opiate need only be exhibited every night, after the eruption is over, and in a smaller dose likewise.

But of whatever kind the small-pox be, and at whatever time of the disease it happens, if a *delirium* comes on, it is indispensably necessary to check the irregular motion of the spirits; and therefore, if the first opiate does not answer the end, it must be repeated till the disturbance be quieted, interposing such a space of time between every dose that we may be assured whether the last hath been effectual for that purpose before we exhibit another.

If a total suppression of urine happens, the patient must be taken out of bed and walk a few turns about his room.

If the heat renders the *saliva* so viscous that it cannot be got up, the throat must be frequently syringed with a gargarism of small-beer, or barley-water with honey of roses; or the following may be used for this purpose:—

Take of elm bark, six drams; liquorice root, half an ounce; stoned raisins, twenty; red roses, two pugils; boil them together in a sufficient quantity of water to a pint and half; in the strained liquor dissolve simple oxmyel and honey of roses, of each two ounces; mix them for a gargarism.

If there be occasion for a blistering plaster, apply a large strong one to the neck on the evening preceding the great crisis of the disease, and immediately afterwards exhibit the opiate. Garlic may also be applied to the bottom of the feet, from the eighth day to the end of the distemper, and renewed every day.

If a child be seized on a sudden with convulsions after dentition, it may be considered that in all probability they proceed from the effort of nature to expel the small-pox, scarlet-fever, or the measles to the outward parts; and therefore let a blistering plaster be applied to the neck, and the child immediately put to bed, and a cordial also exhibited, mixed with a small quantity of some opiate; for instance, five drops of *liquid laudanum*, in a spoonful of *plague-water*, to a child of three years of age.

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If on the eleventh, or any succeeding day, the second fever, attended with restlessness and the other symptoms of this kind, rises so high that it cannot be checked by opiates, though repeated with the greatest frequency, and even endangers life; in this case let a sufficiently large quantity of blood, for instance, twelve ounces or thereabouts, be immediately taken away, and the operation may be repeated a second or third time on the subsequent days, if the above-mentioned symptoms require it, but not otherwise. A lenient purgative may also be ordered on the thirteenth day, but not sooner, or any of the following days, provided bleeding hath been previously used; for instance, an ounce of *lenitive electuary*, dissolved in four ounces of *succory* or *milk water*. But neither bleeding or purging obstruct the use of opiates, which, notwithstanding these evacuations, ought to be given in a large dose, and repeated according to the exigency of the case; for we are always to have recourse to opiates in this disease.

When the pustules are quite dry the face may be anointed with a liniment, made of equal parts of *oil of sweet almonds* and *pomatum*, for two days, but not longer.

On the twenty-first day from the beginning of the distemper take away some blood from the arm, and the next day give a purge, and repeat it every other day to a fourth time.

As to the regimen, the patient should sit up in the daytime till the sixth day, and afterwards keep his bed constantly till the seventeenth, but not have more clothes laid on him than he was accustomed to when in health.

His diet should be water-gruel, barley-gruel, roast apples; and small-beer; and after the eleventh day he may drink four or five spoonfuls of canary twice a day if he likes it.

If the swelling of the legs yields not to the above-mentioned evacuations, it may be easily removed with a fomentation made of the leaves of *mallows*, *mullein*, *elder* and *laurel*, and the *flowers of camomile* and *melilot*, boiled in milk.

If a spitting of blood, or bloody urine happen in the first stage of the disease, let the powder and julep, set down in my dissertation on the second fever in the confluent small-pox, be carefully exhibited every sixth hour till these symptoms entirely disappear; in this case opiates also may be given freely.

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OF ST. VITUS'S DANCE.

This disorder is a kind of convulsion, which seizes children of both sexes from the tenth to the fourteenth year : it manifests itself by a halting or unsteadiness of one of the legs, which the patient draws after him like an idiot. If the hand of the same side be applied to the breast, or any other part of the body, the child cannot keep it a moment in the same posture, but it will be drawn into a different one by a convulsion, notwithstanding all his efforts to the contrary. Before a child who hath this disorder can get a glass or cup to his mouth he useth abundance of odd gestures; for he does not bring it in a straight line thereto, but his hand being drawn sideways by the spasm, he moves it backwards and forwards, till, at length the glass accidentally coming nearer his lips, he throws the liquor hastily into his mouth, and swallows it greedily, as if he meant to divert the spectators.

Take away eight ounces of blood from the arm, or a quantity best adapted to the age of the patient.

The next day give him one-half, or a little more of my common purging potion, according to his age, and at night the following draught:—

Take of black-cherry water, an ounce; compound piony water, three drams; Venice treacle, a scruple; liquid laudanum, eight drops; mix them together for a draught.

Repeat the purgative thrice, once every other day, and give an opiate at night after the operation.

Afterwards bleed again and purge as before, and in this manner let bleeding and purging be repeated a third or fourth time, allowing such intervals between the alternate evacuations as to prevent all dangers therefrom.

On the intermediate days of purging let the following remedies be used—

Take of the conserves of Roman wormwood and orange peel, each an ounce; the conserve of rosemary, half an ounce; old Venice treacle and candied nutmegs, each three drams; candied ginger, a dram; syrup of citron-juice, enough to make them into an electuary, of which let the quantity of

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a nutmeg be taken every morning, and at five in the afternoon, drinking after it five spoonfuls of the following wine:—

Take of the roots of piony, elecampane, masterwort, and angelica, each an ounce; leaves of rue, sage, betony, germander, white horehound, and the tops of the lesser centaury, each a handful; juniper berries, six drams; the peel of two oranges: these ingredients being sliced, cut and bruised as they require, let them infuse, without heat, in six pints of canary; strain it off only as it is used.

Take of rue water, four ounces; compound piony and briony water, each an ounce; syrup of piony, six drams; mix them together for a julep, four spoonfuls of which must be taken every night at bedtime, dropping into it eight drops of spirit of hartshorn.

Apply a plaister spread on leather, of the plaister of gum caranna, to the soles of the feet.

To prevent a relapse, open a vein, and purge for some days, about the same season of the following year, wherein the disease first appeared.

It seems probable to me that this method might suit the falling sickness in grown persons, which, however, I have not yet experienced. But as *St. Vitus's* dance happens only to children, if this method be used in the epilepsy in grown persons, more blood must be taken away, and the purgative made stronger.

APPENDIX.

THE following is a transcript of the letter in Sydenham's handwriting reproduced in facsimile at p. 130. The original is written on a small foolscap double sheet with the address on the reverse, and is to be found among the "Hale Papers" in the British Museum ("Hale Papers," vol. ii, Add. MS. No. 33573, folio 158). Sydenham's wish that the patient may have a smart fit of the gout is in accordance with the well-known fact that gouty persons, after an acute attack is over, are often left in much improved general health for a long time.

For the HONOURED MAJOR HALE

At Kings Walden.

Leave this at ye Post house
in Hitcham Hartfordshire.

Sir,

Though I am perfectly satisfied that your case is only that which in men we call Hypochondriacall, in women Hysterically, proceeding from an Ataxy or Shatteredness of ye Animall Spirits and accordingly that a course of steele was a very proper means for you to have bin put under, yet in regard it hath missed of yt success which with great reason might have bin expected, I thinke it will be to noe purpose to turn yt stone any longer at least after you have taken out the Pills you have allready by you. But 'twill be more adviseable for you for two or three weekes totally to abstain from medicines of all kinds for these two reasons. First for that you have eyther from Dr. Eeles or myselfe charged your body allready with many medicines soe yt a little rest from them may be very convenient for you. And then for that I have often observed that medicines have not had their due effect whilst they have bin takeing, but upon discontinuance the benefit wch they have done hath bin manifest.

APPENDIX

But in case upon tryall for some little time you shall find your symptoms still pressing, I doe earnestly entreat you yt you will use a remedy which I know you have a prejudice against, and which if you had not however you may think not at all indicated in your case, and that is ye Peruvian Bark. I doe truely affirm to you that as it is as wholesom and innocent as ye Bread that you dayly eat, for I have seen it succeed in such cases as yours where neither Antiscorbuticks or Steel have effected any thing. If you shall think fit to use this remedy be pleased to give me notice thereat, and I shall give order to Mr. Malthus to furnish you with that which I can depend upon & shall like wise instruct you how to use it.

Be pleased to present my most humble service to your Lady, and for your selfe I could heartyly wish instead of a merry Christmas yt you might have a smart fit of ye Gout which would quickly dissipate your other fears and those symptoms which if I mistake not doe naturally desire a discharge upon ye Articles, & therefor amongst all tamperings yt you may be put upon at any time I doe advise you to beware of bleeding or Purging as diverting this bitter but most effectuall remedy, viz. ye Gout.

I am, Sr,

Your most humble servant,

THO. SYDENHAM.

Pell Mell, December ye 17th, '87.



